

COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT
WATER QUALITY CONTROL COMMISSION

REGULATION NO. 35

CLASSIFICATIONS AND NUMERIC STANDARDS
FOR
GUNNISON AND LOWER DOLORES RIVER BASINS

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REGULATION NO. 35

CLASSIFICATIONS AND NUMERIC STANDARDS GUNNISON AND LOWER DOLORES RIVER BASINS

35.1 AUTHORITY

These regulations are promulgated pursuant to section 25-8-101 et seq. C.R.S., as amended, and in particular, 25-8-203 and 25-8-204.

35.2 PURPOSE

These regulations establish classifications and numeric standards for the Gunnison River/Lower Dolores River Basins, including all tributaries and standing bodies of water. This includes all or parts of Gunnison, Delta, Montrose, Ouray, Mesa, Saguache and Hinsdale Counties. This also includes the lower Dolores River and its tributaries in Dolores, Montrose, Mesa and San Miguel Counties. The classifications identify the actual beneficial uses of the water. The numeric standards are assigned to determine the allowable concentrations of various parameters. Discharge permits will be issued by the Water Quality Control Division to comply with basic, narrative, and numeric standards and control regulations so that all discharges to waters of the state protect the classified uses. (See Regulation No. 31, section 31.14). It is intended that these and all other stream classifications and numeric standards be used in conjunction with and be an integral part of Regulation No. 31 Basic Standards and Methodologies for Surface Water.

35.3 INTRODUCTION

These regulations and tables present the classifications and numeric standards assigned to stream segments listed in the attached tables (See section 35.7). As additional stream segments are classified and numeric standards for designated parameters are assigned for this drainage system, they will be added to or replace the numeric standards in the tables in section 35.7. Any additions or revisions of classifications or numeric standards can be accomplished only after public hearing by the Commission and proper consideration of evidence and testimony as specified by the statute and the "basic regulations".

35.4 DEFINITIONS

See the Colorado Water Quality Control Act and the codified water quality regulations for definitions.

35.5 BASIC STANDARDS

- (1) All waters of the Gunnison River/Lower Dolores River Basins are subject to the following standard for temperature. (Discharges regulated by permits, which are within the permit limitations, shall not be subject to enforcement proceedings under this standard). Temperature shall maintain a normal pattern of diurnal and seasonal fluctuations with no abrupt changes and shall have no increase in temperature of a magnitude, rate, and duration deemed deleterious to the resident aquatic life. Generally, a maximum 3°C increase over a minimum of a four-hour period, lasting 12 hours maximum, is deemed acceptable for discharges fluctuating in volume or temperature. Where temperature increases cannot be maintained within this range

using Best Management Practices (BMP), Best Available Technology Economically Achievable (BATEA), and Best Practical Waste Treatment Technology (BPWTT) control measures, the Commission may determine by a rulemaking hearing in accordance with the requirements of the applicable statutes and the basic regulations, whether or not a change in classification is warranted.

(2) ORGANICS

See Basic Standards and Methodologies for Surface Water 31.11 for a listing of organic standards. The column in the tables headed "Water + Fish" are presumptively applied to all aquatic life class 1 streams which also have a water supply classification, and are applied to aquatic life class 2 streams which also have a water supply classification, on a case-by-case basis as shown in the Tables 35.7. The column in the tables at 31.11 headed "Fish Ingestion" is presumptively applied to all aquatic life class 1 streams which do not have a water supply classification, and are applied to aquatic life class 2 streams which do not have a water supply classification, on a case-by-case basis as shown in Tables 35.7.

(3) URANIUM

- (a) All waters of the Gunnison/Lower Dolores River Basin, are subject to the following basic standard for uranium, unless otherwise specified by a water quality standard applicable to a particular segment. However, discharges of uranium regulated by permits which are within these permit limitations shall not be a basis for enforcement proceedings under this basic standard.
- (b) Uranium level in surface waters shall be maintained at the lowest practicable level.
- (c) In no case shall uranium levels in waters assigned a water supply classification be increased by any cause attributable to municipal, industrial, or agricultural discharges so as to exceed 40 pCi/l or naturally-occurring concentrations (as determined by the State of Colorado), whichever is greater.
- (d) In no case shall uranium levels in waters assigned a water supply classification be increased by a cause attributable to municipal, industrial, or agricultural discharges so as to exceed 40 pCi/l where naturally-occurring concentrations are less than 40 pCi/l.

35.6 TABLES

(1) Introduction

The numeric standards for various parameters in the attached tables were assigned by the Commission after a careful analysis of the data presented on actual stream conditions and on actual and potential water uses.

Numeric standards are not assigned for all parameters listed in the tables attached to Regulation No. 31. If additional numeric standards are found to be needed during future periodic reviews, they can be assigned by following the proper hearing procedures.

(2) Abbreviations:

The following abbreviations are used in the attached tables:

Ac	=	acute (1-day)
Ag	=	Silver
Al	=	Aluminum
As	=	Arsenic
B	=	Boron
Ba	=	Barium
Be	=	Beryllium
Cd	=	Cadmium
Ch	=	Chronic (30-day)
Cl	=	Chloride
Cl ₂	=	Residual chlorine
CN	=	free cyanide
CrIII	=	Trivalent chromium
CrVI	=	Hexavalent chromium
Cu	=	Copper
Dis	=	dissolved
D.O.	=	dissolved oxygen
E.Coli	=	escherichia coli
F	=	fluoride
F.Coli	=	fecal coliforms
Fe	=	iron
Hg	=	mercury
Mg/l	=	milligrams per liter
ml	=	milliliters
Mn	=	manganese
NH ₃	=	un-ionized ammonia as N(nitrogen)
Ni	=	nickel
NO ₂	=	nitrite as N (nitrogen)
NO ₃	=	nitrate as N (nitrogen)

OW	=	outstanding waters
P	=	phosphorus
Pb	=	lead
S	=	sulfide as undissociated H ₂ S (hydrogen sulfide)
Sb	=	antimony
Se	=	selenium
SO ₄	=	sulfate
Sp	=	spawning
Tl	=	thallium
Tr	=	trout
Trec	=	total recoverable
TVS	=	table value standard
U	=	uranium
Ug/l	=	micrograms per liter
UP	=	use-protected
Zn	=	zinc

In addition, the following abbreviations were used:

Fe(ch)	=	WS(dis)
Mn(ch)	=	WS(dis)
SO ₄	=	WS

These abbreviations mean: For all surface waters with an actual water supply use, the less restrictive of the following two options shall apply as numerical standards, as specified in the Basic Standards and Methodologies at 31.11(6):

- (i) existing quality as of January 1, 2000; or
- (ii)

Iron	=	300 µg/l (dissolved)
Manganese	=	50 µg/l (dissolved)
SO ₄	=	250 mg/l

For all surface waters with a “water supply” classification that are not in actual use as a water supply, no water supply standards are applied for iron, manganese or sulfate, unless the Commission determines as the result of a site-specific rulemaking hearing that such standards are appropriate.

(3) Table Value Standards

In certain instances in the attached tables, the designation "TVS" is used to indicate that for a particular parameter a "table value standard" has been adopted. This designation refers to numerical criteria set forth in the Basic Standards and Methodologies for Surface Water. The criteria for which the TVS are applicable are on the following table.

TABLE VALUE STANDARDS
(Concentrations in ug/l unless noted)

PARAMETER ⁽¹⁾	TABLE VALUE STANDARDS ⁽²⁾⁽³⁾
Ammonia	Cold Water Acute = $0.43/FT/FP/2^{(4)}$ in mg/l Warm Water Acute = $0.62/FT/FP/2^{(4)}$ in mg/l
Cadmium	Acute = $(1.13667 - [\ln(\text{hardness}) * (0.04184)]) * e^{(1.128[\ln(\text{hardness})] - 3.6867)}$ Acute(Trout) = $(1.13667 - [\ln(\text{hardness}) * (0.04184)]) * e^{(1.128[\ln(\text{hardness})] - 3.828)}$ Chronic = $(1.10167 - [\ln(\text{hardness}) * (0.04184)]) * e^{(0.7852[\ln(\text{hardness})] - 2.715)}$
Chromium III ⁽⁵⁾	Acute = $e^{(0.819[\ln(\text{hardness})] + 2.5736)}$ Chronic = $e^{(0.819[\ln(\text{hardness})] + 0.5340)}$
Chromium VI ⁽⁵⁾	Acute = 16 Chronic = 11
Copper	Acute = $e^{(0.9422[\ln(\text{hardness})] - 1.7408)}$ Chronic = $e^{(0.8545[\ln(\text{hardness})] - 1.7428)}$
Lead	Acute = $(1.46203 - [\ln(\text{hardness}) * (0.145712)]) * e^{(1.273[\ln(\text{hardness})] - 1.46)}$ Chronic = $(1.46203 - [\ln(\text{hardness}) * (0.145712)]) * e^{(1.273[\ln(\text{hardness})] - 4.705)}$
Manganese	Acute = $e^{(0.3331[\ln(\text{hardness})] + 6.4676)}$ Chronic = $e^{(0.3331[\ln(\text{hardness})] + 5.8743)}$

Nickel	$\text{Acute} = e^{(0.846[\ln(\text{hardness})]+2.253)}$ $\text{Chronic} = e^{(0.846[\ln(\text{hardness})]+0.0554)}$
Selenium ⁽⁶⁾	$\text{Acute} = 18.4$ $\text{Chronic} = 4.6$
Silver	$\text{Acute} = \frac{1}{2}e^{(1.72[\ln(\text{hardness})]-6.52)}$ $\text{Chronic} = e^{(1.72[\ln(\text{hardness})]-9.06)}$ $\text{Chronic(Trout)} = e^{(1.72[\ln(\text{hardness})]-10.51)}$
Uranium	$\text{Acute} = e^{(1.1021[\ln(\text{hardness})]+2.7088)}$ $\text{Chronic} = e^{(1.1021[\ln(\text{hardness})]+2.2382)}$
Zinc	$\text{Acute} = e^{(0.8473[\ln(\text{hardness})]+0.8618)}$ $\text{Chronic} = e^{(0.8473[\ln(\text{hardness})]+0.8699)}$

TABLE VALUE STANDARDS - FOOTNOTES

- (1) Metals are stated as dissolved unless otherwise specified.
- (2) Hardness values to be used in equations are in mg/l as calcium carbonate and shall be no greater than 400 mg/L. The hardness values used in calculating the appropriate metal standard should be based on the lower 95 per cent confidence limit of the mean hardness value at the periodic low flow criteria as determined from a regression analysis of site-specific data. Where insufficient site-specific data exists to define the mean hardness value at the periodic low flow criteria, representative regional data shall be used to perform the regression analysis. Where a regression analysis is not appropriate, a site-specific method should be used. In calculating a hardness value, regression analyses should not be extrapolated past the point that data exist.
- (3) Both acute and chronic numbers adopted as stream standards are levels not to be exceeded more than once every three years on the average.
- (4) $FT = 10^{0.03(20-TCAP)}$,
Where $TCAP$ is $\leq T \leq 30$

 $FT = 10^{0.03(20-T)}$,
Where 0 is $\leq T \leq TCAP$

TCAP = 20° C cold water aquatic life species present

TCAP = 25° C cold water aquatic life species absent

FPH = 1; Where $8 < \text{pH} \leq 9$

$$\text{FPH} = 1 + \frac{10^{(7.4-\text{pH})}}{1.25}, \quad \text{Where } 6.5 \leq \text{pH} \leq 8$$

FPH means the acute pH adjustment factor, defined by the above formulas.

FT Means the acute temperature adjustment factor, defined by the above formulas.

T means temperature measured in degrees celsius.

TCAP means temperature CAP; the maximum temperature which affects the toxicity of ammonia to salmonid and non-salmonid fish groups.

NOTE: If the calculated acute value is less than the calculated chronic value, then the calculated chronic value shall be used as the acute standard.

- (5) Unless the stability of the chromium valence state in receiving waters can be clearly demonstrated, the standard for chromium should be in terms of chromium VI. In no case can the sum of the instream levels of Hexavalent and Trivalent Chromium exceed the water supply standard of 50 ug/l total chromium in those waters classified for domestic water use.
- (6) Selenium is a bioaccumulative metal and subject to a range of toxicity values depending upon numerous site-specific variables.

35.7-35.10 Reserved

35.11 STATEMENT OF BASIS AND PURPOSE

I. Introduction

These stream classifications and water quality standards for State Waters of the Gunnison River Basin including all tributaries and standing bodies of water in all or parts of the Gunnison, Delta, Montrose, Ouray, Mesa, Saguache, and Hinsdale Counties and the Lower Dolores River and its tributaries in Dolores and San Miguel Counties implement requirements of the Colorado Water Quality Control Act C.R.S. 1973, 25-8-101 et seq. (Cum. Supp. 1981). They also represent the implementation of the Commission's Regulations Establishing Basic Standards and an Antidegradation Standard and Establishing a System for Classifying State Waters, for Assigning Standards, and for Granting Temporary Modifications (the "Basic Regulations")

The Basic Regulations establish a system for the classification of State Waters according to the beneficial uses for which they are suitable or are to become suitable, and for assigning specific numerical water quality standards according to such classifications. Because these stream classifications and standards implement the Basic Regulations, the statement of basis and purpose (Section 3.1.16) of those regulations must be referred to for a complete understanding of the basis and purpose of the regulations adopted herein. Therefore, Section 3.1.16 of the Basic Regulations is incorporated by reference. The focus of this statement of basis and purpose is on the scientific and technological rationale for the specific classifications and standards in the Gunnison River Basin.

Public participation was a significant factor in the development of these regulations. A lengthy record was built through public hearings held on November 16-18, 1981. A total of 10 entities requested and were granted party status by the Commission in accordance with the Commission's Procedural Regulations (Cum. Supp. 1980). The record established in these hearings forms the basis for the classifications and standards adopted.

II. General Considerations

These regulation are not adopted as control regulations. Stream classifications and water quality standards are specifically distinguished from control regulations in the Water Quality Control Act, and they need not be adopted as control regulations pursuant to the statutory scheme.

III. Definition of Stream Segments

1. For purposes of adopting classifications and water quality standards, the streams and water bodies are identified according to river basin and specific water segments.
2. Within each river basin, specific water segments are defined, for which use classifications and numeric water quality standards, if appropriate, are adopted. These segments may constitute a specified stretch of a river mainstem, a specific tributary, a specific lake or reservoir, or a generally defined grouping of waters within the basin (e.g., a specific mainstem segment and all tributaries flowing into that mainstem segment).
3. Segments are generally defined according to the points at which the use, water quality, or other stream characteristics change significantly enough to require a change in use classification and/or water quality standards. In many cases, such transition points can be specifically identified from available data. In other cases the delineation of segments is

based upon best judgments of the points where instream changes in uses, water quality, or other stream characteristics occur.

IV. Use Classifications and Standards -- Generally

1. Initially, recommendations for stream segmentation and use classifications are a result of input from 208 plans, water quality data and reports, the Division of Wildlife, and personal knowledge. After a basic outline of stream segments and use classifications was prepared, water quality data from a variety of sources was compared against the "table value" for the proposed use. "Table value" refers to the four tables attached to the "Basic Regulations". In general, if the mean plus one standard deviation ($x + s$) of the available data for the segment indicated that a particular parameter did not exceed the "table value" for that recommended use, the "table value" was listed as the recommended standard for the parameter. If the $x + s$ computation indicated that the instream concentrations of the parameter exceeded the "table value" and yet the use to be protected by that parameter was in place, then the $x + s$ value was recommended as the standard for that parameter.

Conversely, if the ambient quality ($x + s$) for a certain parameter exceeded the "table value" for the protection of a use, and there is information that the proposed use is not in place, the use classification was modified or temporary modifications to the parameters were established. Ambient quality is generally defined as the quality attributable to natural conditions and/or uncontrollable non-point sources.

2. The use classifications have been established in accordance with the provisions of Section 203 of the Water Quality Control Act and Section 3.1.6 and 3.1.13 of the Basic Regulations.
3. In most cases upstream segments of a stream are generally the same as, or higher in classification, than downstream segments in order to protect downstream uses. In a few cases, tributaries are classified at lower classifications than mainstems where flow from tributaries does not threaten the quality of mainstem waters where the evidence indicates that lower classification for the tributaries is appropriate. In either case, permits should be written to assure compliance with Water Quality Standards and any stream segment affected by a discharge.
- 4.A. The Commission has determined that it has the authority to assign the classification "High Quality Waters - Class 1" and "High Quality Waters - Class 2" where the evidence indicates that the requirements of Sections 3.1.13(1)(e) of the basic regulations are met. A question exists as to whether existing diversion structures can be maintained consistent with a "High Quality - Class 1" designation. Because of the questions regarding authority to regulate diversions, the Class 1 designation was deemed potentially too rigid. The Commission recognizes its authority to upgrade these segments if and when it is appropriate to do so. Streams have been classified "High Quality - Class 2" for one or more of the following reasons:
 - (a) to facilitate the enjoyment and use of the scenic and natural resources of the State in accordance with the Legislative Declaration of the Colorado Water Quality Control Act (25-8-102(1) C.R.S. 1973.
 - (b) to provide a high degree of protection deserving of wilderness areas which are a resource providing a unique experience.

- (c) to protect threatened species or to protect wild scenic river study areas or wilderness areas.

The concern of the United States Forest Service that High Quality 2 classification will unduly burden their management of multiple use areas is not well founded. This is because activities on Forest Service land, i.e. grazing, mineral exploration, trail and road maintenance, are considered as a historical impact upon existing ambient water quality conditions and are non point sources which are presently not subject to any Water Quality Control Commission regulations.

B. The "High Quality - Class 2" classification was proposed by the Gunnison River Coalition and other witnesses for a number of segments. These proposals have been rejected, and the segments classified for specific uses, for the following reasons:

- (a) High quality classifications represent extraordinary categories, and their use is optional at the discretion of the Commission;
- (b) It is important in these cases to assign specific water quality standards to protect the highest specific use classifications, and only specific use classifications provide the mechanism for assigning such standards.

5. In accordance with 25-8-104, C.R.S. 1973, the Commission intends that no provision of this regulation shall be interpreted so as to supercede, abrogate, or impair rights to divert water and apply water to beneficial uses.

6. Recreation -- Class 1 and Class 2

In addition to the significant distinction between Recreation - Class 1 and Recreation - Class 2 as defined in Section 3.1.13(1) of the Basic Regulations, the difference between the two classifications in terms of water quality standards is the fecal coliform parameter. Recreation - Class 1 generally has a standard of 200 fecal coliform per 100 ml; Recreation - Class 2 generally has a standard of 2000 fecal coliform per 100 ml.

In accordance with the Colorado Water Quality Control Act, the Commission has decided to classify as "Recreation - Class 2" those stream segments where primary contact recreation does not exist and cannot be reasonably expected to exist in the future, regardless of water quality. The Commission has decided to classify as "Recreation - Class 1" only those stream segments where primary contact recreation actually exists, or could reasonably be expected to occur. The reasons for the application of Recreation Class 2 are as follows:

- (a) The mountain streams in this region are generally unsuitable for primary contact recreation because of low water temperature and low stream flows.
- (b) Fecal coliform is an indicator organism. Its presence does not always indicate the presence of pathogens. This depends on the source of the fecal coliform. If the source is agricultural runoff as opposed to human sewage, there may be no health hazard and therefore no significant need to reduce the presence of fecal coliform to the 200 per 100 ml. level. Also, control of nonpoint sources is very difficult.

- (c) Treating sewage to meet the 200 per 100 ml. level generally means the treatment plant must heavily chlorinate its effluent to meet the limitation. The presence of chlorine in the effluent can be significantly detrimental to aquatic life. Post-treatment of effluent to meet the residual chlorine standard is expensive and often results in the addition of more chemicals which have a negative effect on water quality and can be detrimental to aquatic life. Therefore, reducing the need for chlorine is beneficial to aquatic life.
- (d) Even where a treatment plant in this region might treat its effluent to attain the standard of 200 per 100 ml., agricultural runoff and irrigation return flows below the plant may result in the rapid increase of fecal coliform levels. Therefore, the benefits of further treatment are questionable.
- (e) The fecal coliform standard of 2000 per 100 ml. has been established to provide general public health protection. There is no significant impact on domestic drinking water treatment plants because they provide complete disinfection. The standard of 200 per 100 ml. is not intended to protect the water supply classification.

7. Water Supply Classification

The Commission finds that Colorado is a water short state and that it is experiencing considerable growth which places additional burdens on already scarce water supplies. These considerations mitigate in favor of a conservative approach to protecting future water supplies. Where existing water quality is adequate to protect this use, and in the absence of dischargers to these segments or testimony in opposition to such classification, the water supply use has been assigned because it is reasonable to expect that it may exist in the future in such cases. For stream segments that flow through, or in the vicinity of, municipalities, this conclusion is further justified, since there is a reasonable probability that the use exists or will exist. Where the water supply classification has been opposed, the Commission has evaluated the evidence on a site specific basis, and in many cases the classification has been removed.

V. Water Quality Standards -- Generally

- 1. The water quality standards for classified stream segments are defined as numeric values for specific water quality parameters. These numeric standards are adopted as the limits for chemical constituents and other parameters necessary to protect adequately the classified uses in all stream segments.
- 2. Not all of the parameters listed in the "Tables" appended to the Basic Regulations are assigned as water quality standards. This complies with Section 3.1.7(c) of the Basic Regulations.

Numeric standards have been assigned for the full range of parameters to a number of segments where little or no data existed specific to the segment. In these cases, there was reason to believe that the classified uses were in place or could be reasonably expected, and that the ambient water quality was as good as or better than the numeric standards assigned.

- 3. A numeric standard for the temperature parameter has been adopted as a basic standard applicable to all waters of the region in the same manner as the basic standards in Section 3.1.11 of the Basic Regulations.

The standard of a 3 C temperature increase above ambient water temperature as defined is generally valid based on the data regarding that temperature necessary to support an "Aquatic Life - Class 1" fishery. The standard takes into account daily and seasonal fluctuations; however, it is also recognized that the 3 C limitation as defined is only appropriate as a guideline and cannot be rigidly applied if the intention is to protect aquatic life. In winter, for example, warm water discharges may be beneficial to aquatic life. It is the intention of the Commission in adopting the standard to prevent radical temperature changes in short periods of time which are detrimental to aquatic life.

4. Numeric standards for seventeen organic parameters have been adopted as basic standards applicable to all waters of the region in the same manner as the basic standards in Section 3.1.11 of the Basic Regulations. These standards are essential to a program designed to protect the waters of the State regardless of specific use classifications because they describe the fundamental conditions that all waters must meet to be suitable for any use.

It is the decision of the Commission to adopt these standards as basic standards because the presence of the organic parameters is not generally suspected. Also, the values assigned for these standards are not detectable using routine methodology and there is some concern regarding the potential for monitoring requirements if the standards are placed on specific streams. This concern should be alleviated by Section 3.1.14(5) of the Basic Regulations but there is uncertainty regarding the interpretation of those numbers by other entities. Regardless of these concerns, because these constituents are highly toxic, there is a need for regulating their presence in State waters. Because the Commission has determined that they have uniform applicability here, their inclusion as basic standards for the region accomplishes this purpose.

5. In many cases, the numeric water quality standards are taken from the "Tables" appended to the Basic Regulations. These table values are used where actual ambient water quality data in a segment indicates that the existing quality is substantially equivalent to, or better than, the corresponding table values. This has been done because the table values are adequate to protect the classified uses.

Consistent with the Basic Regulations, the Commission has not assumed that the table values have presumptive validity or applicability. This accounts for the extensive data in the record on ambient water quality. However, the Commission has found that the table values are generally sufficient to protect the use classifications. Therefore, they have been applied in the situations outlined in the preceeding paragraph as well as in those cases where there is insufficient data in the record to justify the establishment of different standards. The documentary evidence forming the basis for the table values is included in the record.

6. In many cases, instream ambient water quality provides the basis for the water quality standards (See 7 below). In those cases where the classified uses presently exist or have a reasonable potential to exist despite the fact that instream data reflects ambient conditions of lower water quality than the table values, instream values have been used. In these cases, the evidence indicates that instream values are adequate to protect the uses. In those cases where temporary modifications are appropriate, instream values are generally reflected in the temporary modification and table values are reflected in the corresponding water quality standard. (Goals are established for the appropriate classification affected by the parameter).

Cases in which water quality standards reflect these instream values usually involve the metal parameters. On many stream segments elevated levels of metals are present due to natural or unknown causes, as well as mine seepage from inactive or abandoned mines. These sources are difficult to identify and impractical or impossible to control. The classified aquatic life uses may be impacted and/or may have adjusted to the condition. In either case, the water quality standards are deemed sufficient to protect the uses that are present.

7. In those cases where there was no data for a particular segment, or where the data consists of only a few samples for a limited range of parameters, "table values" were generally recommended. Data at the nearest downstream point was used to support this conclusion. In some cases, where the limited data indicated a problem existed, additional data was collected to expand the data base. Additionally, where there may not be existing data on present stream quality, the Commission anticipates that if necessary, additional data will be collected prior to an economic reasonableness hearing required by C.R.S. 1973, 25-8-204(3), as amended.
8. In most cases in establishing standards based on instream ambient water quality, a calculation is made based upon the mean (average) plus one standard deviation ($\bar{x} + s$) for all sampling points on a particular stream segment. Since a standard deviation is not added to the water quality standard for purposes of determining the compliance with the standard, this is a fair method as applied to discharges.

Levels that were determined to be below the detectable limits of the sampling methodology employed were averaged in as zero rather than at the detectable limit. This moves the mean down but since zero is also used when calculating wasteload allocations, this method is not unfair to dischargers.

Metals present in water samples may be tied up in suspended solids when the water is present in the stream. In this form they are not "available" to fish and may not be detrimental to aquatic life. Because the data of record does not distinguish as to availability, some deviation from table values, and the use of $\bar{x} + s$, is further justified because it is unlikely that the total value in all samples analyzed is in available form.

A number of different statistical methodologies could have been used where ambient water quality data dictates the standards. All of them have both advantages and disadvantages. It is recognized that the $\bar{x} + s$ methodology also has weaknesses, in that the standard may not reflect natural conditions in a stream 100 per cent of the time, even though the use of $\bar{x} + s$ already allows for some seasonal variability. However, the use of this methodology is justified since it provides a meaningful index of stream quality for setting stream standards.

Since the $\bar{x} + s$ methodology is an index of existing conditions and is not a classical statistical description, use of a methodology which eliminates outliers, i.e. unusually high or low data which may be in error, is acceptable in approximating an average condition. The practice of eliminating only extremely high recorded data points and not low recorded values may result in erring on the side of safety. High recorded values may be due to sampling, laboratory, or recording error. To a limited degree the high values may be due to seasonal variation in the data base.

Finally, the fairness and consistency of the use of any methodology in setting standards must recognize the manner in which the standards are implemented and enforced. It is essential that there be consistency between standard setting and the manner in which attainment or non-attainment of the standards is established based on future stream monitoring data. In addition the Division must take this methodology into account in writing and enforcing discharge permits.

9. No water quality standards are set below detectable limits for any parameter, although certain parameters may not be detectable at the limit of the standards using routine methodology. However, it must be noted that stream monitoring, as opposed to effluent monitoring, is generally not the responsibility of the dischargers but of the State. Furthermore, the purpose of the standards is to protect the classified uses and some inconvenience and expense as to monitoring is therefore justifiable.

Section 3.1.15(5) of the Basic Regulations states that “dischargers will not be required to regularly monitor for any parameters that are not identified by the Division as being of concern”. Generally, there is no requirement for monitoring unless a parameter is in the effluent guidelines for the relevant industry, or is deemed to be a problem as to a specific discharge.

Some of the data developed by AMAX for metals values were based on “direct aspiration” testing method. This testing method has a detection limit 100 times higher than the furnace method used by the Division. In using “direct aspiration”, detection limit is above some of the proposed metal values. Therefore, the Commission chose to disregard this data. Because water quality standards are set at levels of ten times below detection limits of the direct aspiration testing method, it is appropriate to use data based upon detection limits of the Health Department Laboratory. These detection limits for establishing water quality standards may be more restrictive than EPA detection limits for effluent monitoring.

10. The dissolved oxygen standard is intended to apply to the epilimnion and metalimnion strata of lakes and reservoirs. Respiration by aerobic micro-organisms, as organic matter is consumed, is the primary cause of a natural decrease in dissolved oxygen and anaerobic conditions in the hypolimnion. Therefore, this stratum is exempt from the dissolved oxygen standard.
11. Where numeric standards are established based on historic instream water quality data at the level of $x + s$, it is recognized by the Commission that measured instream parameter levels might exceed the standard approximately 15 percent of the time.
12. It is the Commission’s intention that the Division implement and enforce all water quality standards consistent with the manner in which they have been established.
13. Hardness/Alkalinity

Where hardness and alkalinity numbers differed, the Commission elected to use alkalinity as the controlling parameter, in order to be consistent with other river basins and because testimony from the Division staff indicated that in most cases alkalinity has a greater effect on toxic form of metals than does hardness.

VI. Water Quality Standards for Unionized Ammonia

The Commission retains the use of unionized ammonia as a parameter rather than total ammonia because unionized ammonia is the toxic portion. Furthermore, the relationship of total ammonia as a function of temperature and pH is recognized.

On some Class 2 Warm Water Aquatic Life streams containing similar aquatic life communities to those found in the plains streams of the South Platte & Arkansas Basins, .1 mg/l ammonia was selected as being appropriate to protect such aquatic life.

The Commission has relaxed unionized ammonia standards to .1 mg/l or greater on several streams for the following reasons:

1. limited nature of the aquatic life present;
2. limited recreational value of species present;
3. habitat limitations, primarily flow and streambed characteristics, that impose significant limitations on the nature of aquatic life, even if ammonia reductions were attained;
4. rapid dissipation of ammonia in streams, reducing the impact of such discharges downstream; and
5. economic costs of ammonia removal, especially where such costs would fall primarily on publicly-owned treatment works, and while the availability of construction grant funds is questionable.
6. Biosurveys with support from a bioassay conducted on fathead minnows performed in the Cache la Poudre River show that a .1 mg/l standard is appropriate to protect existing biota in that stream. The results of these studies may be reasonably extrapolated to similar streams; i.e., those streams that demonstrate similar chemical, physical, and biological characteristics.

Not all warmwater streams are comparable in terms of flow and habitat, and types and numbers of species of aquatic life. Therefore, some variations in an appropriate ammonia standard must be tolerated, with the objective of protecting existing aquatic life. The Commission found this approach preferable to totally removing the aquatic life classification from impacted or marginal aquatic life streams.

VII. Water Quality Standards for Uranium

Given the threat that radioactivity from uranium may pose to human health, it is advisable to limit uranium concentrations in streams to the maximum extent practicable. For segments assigned a water supply classification the Commission has adopted a standard of 40 pCi/l or natural background where higher, for the following reasons:

1. 40 pCi/l generally reflects background concentrations of uranium that may be found in streams in Colorado and therefore this amount approximates routine human exposure.
2. The statistical risk of human health hazards is small at 40 pCi/l.
3. 40 pCi/l is an interim level, established now pending the outcome of further studies currently underway.

VIII. Water Quality Standards for Cyanide

The Commission acknowledges that total cyanide is to be used in State Discharge Permits until a method is authorized by EPA for measuring free cyanide, even though free cyanide is the parameter of concern.

IX. Water Quality Standards for Metals

Several parties were concerned about the methods that were employed to digest samples used to determine ambient metal values. The Commission heard testimony that when high suspended solids are present, the two methods of sample digestion could result in very different values, with the "total" method yielding the higher values. But when the suspended solids are low, the two digestion methods will result in similar values. Therefore, the Commission has incorporated data generated by the "total" method when it could be determined that the suspended solids in the water sample were low.

The Commission believes that the "total recoverable" or equivalent method should be used as a testing method for determining ambient metal values for streams. This method is a better indicator in determining the amount of metal available to aquatic life in a toxic form, particularly when the amount of suspended solids carried by the stream is high. However, with low suspended solids the two testing methods should yield the same result. Therefore, before incorporating into stream standards data generated by the "total" method it must be verified that there are low suspended solids in the water samples tested.

The United States Geological Survey used the "total" method before 1978 and the "total recoverable" after 1978, and that because of this, there might be some inconsistency in the STORET data. The Commission believes that with the proper check on suspended solids, pre-1976 STORET data can be used to determine ambient stream values.

It was suggested by AMAX that since the "total" method is used in monitoring state discharge permits, then the "total" method should be used in setting stream standards. The Commission does not agree. For the reasons already stated, the Commission believes that the "total recoverable" is preferable for assigning water quality standards. And, since most state discharge permits limit suspended solids to 30 mg/l, effluent testing will be similar to the methods underlying stream standards.

X. Linkage of classifications and Standards

The Commission holds that the classifications which it adopts and the standards it assigns to them are linked. Disapproval by EPA of the standards may require reexamination by the Commission of the appropriateness of its original classification. The reason for the linkage is that the Commission recognizes that there is a wide variability in the types of aquatic life in Colorado streams which require different levels of protection. Therefore, the numbers were chosen in some cases on a site specific basis to protect the species existing in that segment. If any reclassification is deemed a downgrading, then it will be based upon the grounds that the original classification was in error.

XI. Economic Reasonableness

The Commission finds that these use classifications and water quality standards are economically reasonable. The Commission solicited and considered evidence of the economic impacts of these regulations. This evaluation necessarily involved a case-by-case consideration of such impacts, and reference is made to the fiscal impact statement for this analysis. Generally, a judgment was made as to whether the benefits in terms of improving water quality justified the costs of increased treatment. In the absence of evidence on economic impacts for a specific segment, the Commission concluded that the regulations impose no unreasonable economic burden.

XII. Classifications and Standards - Special Cases

1. Page 1, Segment 6(a), 6(b), and 6(c) (Proposed as page 1, segment 6)

Segment 6(a) receives a discharge from the Roaring Judy fish hatchery. 6(a) contains the tributaries to the mainstem which are intermittent. The perennial tributaries to the mainstem are included in segment 6(b). The Commission found no evidence of water supply use associated with segment 6(b) which contains fisheries.

2. Page 2, Segments 7 and 8

Water supply was retained for both segments because segment 8 is subject to conditional water rights held by the Town of Crested Butte. The agriculture classification was retained because the use it currently in place.

3. Page 2, Segment 9

Segment 9 represents the mainstem of the Slate River from the point immediately above its confluence with Coal Creek to its confluence with the East River. The Division's initial proposal was based on 17 samples taken during 1979 through 1981. These data were significantly influenced by heavy metals entering the Slate River from Coal Creek. In May of 1981 Amax commenced operation of the wastewater treatment facility treating discharges to Coal Creek, a tributary of the Slate River. By July, 1981 steady state operation had been achieved. In view of the significant change in ambient water quality resulting from the operation of the wastewater treatment plant, the Commission adopted the Division's suggestion that the record on this segment be kept open to receive more meaningful data. The water quality standards adopted by the Commission are based on combined Amax and Storet data during the period of record July, 1981 through June, 1982. The water quality standards adopted for this segment are table values from the 0-100 hardness/alkalinity column, with the exception of cadmium, copper, lead and zinc. The standards for these parameters were based on $\bar{x} + s$ values derived from the combined Amex and Storet data for the twelve month period of record. The Storet data was in terms of total recoverable while Amax data was in terms of total metals. The cadmium level of 0.03 mg/l taken on November 12, 1981 was discarded as an outlier. All Amax data used had total suspended solids of less than 30 milligrams per liter. The monitoring location for Segment 9 was at the wooden bridge on Highway 135, 0.25 miles below the Crested Butte domestic wastewater treatment plant.

Adoption of an aquatic life, class 1 classification with a 0.02 mg/l unionized ammonia standard presents the potential for economic impact upon the Town of Crested Butte. The Commission acknowledged the potential, for requirements necessitating nitrification facilities but found it justified for the following reasons: (1) There is no clear and present threat of immediate

economic impact; (2) Future impact, if ammonia removal becomes necessary, will be spread among a substantial population base and thus per capita impact will be small'; (3) Several interim options are available to the district to further postpone and reduce the probability of significant economic impact; and (4) The Town testified that it was willing to assume the potential for economic impact in order to protect the quality of this segment as it provides a significant contribution to the local recreational resources which account for a substantial portion of the economic base in the region.

In view of the factors that mitigate the near-term potential for economic impact and since the most likely impacted entity supports this classification, the Commission finds that the assignment of a class 1 designation is economically reasonable.

4. Page 2, Segment 10

This segment receives effluent from the Crested Butte Water and Sanitation District by way of Woods Creek. Existing aquatic life supports a class 1 cold water classification. A report by Camp, Dresser, and McKee describes a less expensive alternative to ammonia removal which could be implemented ammonia as an interim treatment to greatly delay the necessity of nitrification facilities. The Commission acknowledges that removal will probably be required for the Crested Butte W & S District's wastewater treatment plant as they reach the maximum population in their masterplan. Ammonia removal maybe required in the near future, but a report by Camp, Dresser, & McKee describes a less expensive alternative which could be implemented. Notwithstanding such improvements, ammonia removal may be required to provide services for the maximum population projected in the master plan. The Commission believes that the cost of ammonia removal when it is ultimately required is economically reasonable because of the large population base which will be available to support this requirement and the economic importance of recreational fisheries to communities in this area.

5. Page 3, Segment 12

In the initial proposal, Segment 12 included the mainstem of Coal Creek from a point immediately above the confluence with Elk Creek to a point immediately below the Crested Butte water supply intake. Elk Creek and its tributaries were added to this segment since water quality sampling indicated that the water quality of Elk Creek and Coal Creek are similar. Although a recreation class 2 was adopted for this segment a fecal coliform standard of 200 per 100 m/l was adopted by agreement of the interested parties and because the standards is currently met.

6. Page 3, Segment 13

The Division's initial proposal for this segment was based on four samples taken prior to the startup of the Amax wastewater treatment facility in July of 1981. This facility treats the discharge from the inactive Keystone Mine which is the principal point source discharger into Coal Creek. In view of the significant change in ambient water quality resulting from operation of the wastewater treatment plant, the Commission in effect adopted the Division's suggestion that the record on this segment be kept open to receive more meaningful data. The aquatic life cold water class 1 use classification for this segment is based on ambient flow ($Q_7-10 = 3.5$ CFS), quality conditions with continuous operation of the Amax wastewater treatment facility, and presence of aquatic life. These standards include consideration of the existing discharge and it is not anticipated that additional treatment will be required. Where water quality data was available, the water quality standards adopted for this segment were developed based upon the

ambient flow conditions and water quality in this segment for those parameters. Only cadmium and zinc were greater than table values in the 100-200 hardness/alkalinity range. If Crested Butte fully exercised its decreed water right in Segment 12, the flow in Segment 13 would essentially be the discharge from the Amax wastewater treatment facility. This flow is in the greater than 400 hardness/alkalinity range. If, changes in flow conditions occur or if data subsequently becomes available for water quality standards based on table values, these water quality standards should be reviewed for compatibility with ambient conditions. The water quality standards for cadmium and zinc are $x + s$ values based on Amax data for the twelve month period of record of July, 1981 through June, 1982. This data is in terms of total metals. However, all data had suspended solids of less than 30 milligrams per liter. The November 12, 1981 samples for zinc, iron and manganese were determined to be outliers. The monitoring location for Segment 13 was on Coal Creek 30 meters upstream from its confluence with the Slate River and the water quality standards are specific to this location.

7. Page 3, Segment 14

An aquatic life classification has not been assigned to this segment because the presence of aquatic life is extremely limited, flow is intermittent, gradient is steep, and fish habitat is not present. The potential economic impact of standards to protect an aquatic life classification is therefore not justified.

8. Page 3, Segment 15

Water Supply and agriculture are existing uses. An aquatic life, class 1 classification may require occasional ammonia removal. The City of Gunnison supported aquatic life, class 1 classification.

9. Page 4, Segment 17

The Division's initial proposal for water quality standards for segment 17 was based on table values from 0-100 hardness/alkalinity column. The standards adopted are the same with the exception of zinc which represents the $x + s$ of the Amax data for the period of record. The Amax data was in terms of total metals. However, all data used had total suspended solids of less than 30 milligrams per liter.

10. Page 4, Segments 21(a) 21(b) and 22

Indian Creek has been resegmented into 2 segments, 21(a) and 21(b), to reflect variability's in water quality and aquatic life.

The uranium standard of 2.0 mg/l for Segment 21(a) is sufficient to protect the aquatic life in that segment. The standard is consistent with historic instream conditions and the existing discharge at SW33. The determination that this standard is sufficient to protect aquatic life is based upon bioassay and benthic studies which are included in the record (Homestake additional Exhibit A, Vol. II, pp. 232-235 and Homestake Exhibits H-N). This standard will adequately protect the classified uses assigned in Segment 21(b), and in Segment 22, Lower Marshall Creek.

The uranium standard of .3 mg/l for Segment 21(b) is sufficient to protect the aquatic life in that segment. The more stringent standard adopted here is consistent with historic instream conditions based upon data taken at both monitoring stations within the segment, namely SW3

and WQCD 149. The Division, in implementing and enforcing the standard for Segment 21(b), should recognize this fact that the standard reflects data from both stations. SW3 is located on Indian Creek approximately 660 feet below the confluence of Indian Creek and Bull Creek, and Station 149 is located in close proximity to Homestake sampling station SW4. The standard for segment 21(b) will adequately protect the classified uses assigned in segment 22, including the water supply use that exists there. It should be noted that there is not water supply use in either segment 21(a) or segment 21(b).

11. Page 6, Segments 29, 30, 31, and 33

A U.S. Forest Service letter dated December 9, 1981, provided water quality data for streams on segments 29, 30, 31, and 33 of the Upper Gunnison. It was considered unreliable because the reported concentrations were too high to support aquatic life on streams acknowledged by the U.S. Forest Service as good fisheries.

12. Page 7, Segment 5; North Fork of the Gunnison

Hubbard Creek was not separated from this segment as requested by the Blue Ribbon Coal Company as the presence of three species of trout justifies a class 1 aquatic life classification. The water supply use is also in place and the evidence indicated that uses in Hubbard Creek were compatible with the balance of the segment. In addition, although the Blue River Coal Company is a NPDES discharge permit holder there is currently no discharge and no current economic impact.

13. Page 9, Segment 5

An aquatic life classification of cold water, class 1 was requested for Wehauken Creek to protect an existing private trout hatchery on the creek. However, the majority of the tributary streams in this segment do not support fisheries because of steep gradients. The Commission elected to classify the segment as aquatic, cold water, class 2 with table values for cold water, class 1 to protect the fish hatchery on Wehauken Creek.

14. Page 12, Segment 2

The aquatic life classification was removed because the Commission found no evidence of aquatic life in this segment and determined that there was no expectation of such use in the future. The segment is badly degraded by mine drainage.

15. Page 12, Segment 2

The Commission assigned the segment a cold water, class 1, aquatic life classification having found: That the City of Delta would not be adversely impacted due to the dilution provided by large stream flows.

16. Page 14, Segment 5

An underlying standard for ammonia of .08 mg/l was adopted based upon the results of a bioassay conducted in 1975. Although this represents a relaxation of the proposed standard of .06 mg/l, this result is justified since the bioassay reflects site specific conditions for pH, temperature and TDS, which factors affect ammonia toxicity.

The temporary modification for ammonia reflects seasonal variations in ammonia levels based upon existing discharge permit conditions. Since the existing discharge will cease in 1986, the conditions causing exceedence of the underlying standard will be corrected within a 20 year period. These facilities will be replaced by new facilities designed for zero discharge of ammonia. In view of the cost of the new facilities and the limited duration of the existing discharge, a standard necessitating additional interim treatment facilities would not be economically reasonable.

COLORADO DEPARTMENT OF HEALTH
Water Quality Control Division
4210 East 11th Avenue
Denver, Colorado 80220

FISCAL IMPACT STATEMENT

Stream Classifications and Water Quality Standards for State Waters of the Lower Colorado Basin below Glenwood Springs; the Yampa River Basin below Elkhead Creek; the Green river; and the entire White River drainage including all tributaries and standing bodies of water associated with those rivers in all of Moffat, Rio Blanco, Garfield, and portions of Mesa and Routt Counties.

I. INTRODUCTION

The Water Quality Control Commission is charged with the responsibility to conserve, protect, and improve the quality of state waters pursuant to C.R.S. 1973, 25-8-101 et seq.

The Commission is further empowered and directed to classify waters of the State and to promulgate water quality standards for any measurable characteristic of the water in order to protect both the uses in place and those that can be reasonably expected in the future. (25-8-203 and 25-8-204) The above-titled document assigns use classifications and standards for the state waters in the listed areas in accordance with the "basic regulations" adopted May 22, 1979.

The measurable fiscal impacts which may be caused by these regulations are as follows:

- Cost of construction due to requirements for increased levels of treatment by municipal waste treatment facilities;
- Cost of construction due to requirements for increased levels of treatment by industrial/commercial waste treatment facilities;
- Cost of Operation and Maintenance associated with increased levels of treatment required of municipalities;
- Cost of Operation and Maintenance associated with increased levels of treatment required of industrial and commercial dischargers;
- Cost of instream monitoring and laboratory analysis for new parameters added by the standards.

Dischargers will not be required by the adoption of these regulations to do stream monitoring. The state, federal and local agencies now doing instream monitoring will have some increased cost; however, any additional frequency should be done to improve state surveillance and would be needed regardless of standard changes.

The stream classifications and standards adopted by the Commission will protect the water uses primarily through control of point source pollution. Nonpoint source pollution

35.12 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE:
1988 AMENDMENTS REGARDING SAN MIGUEL RIVER SEGMENTS

The provisions of 25-8-202(1)(a), (b) and (2); 25-8-203; 25-8-204; and 25-8-207 C.R.S., provide the specific statutory authority for adoption of the attached regulatory amendments. The Commission also adopted, in compliance with 24-4-103(4) and 24-4-103(8)(d) C.R.S., the following statements of basis and purpose and fiscal impact.

BASIS AND PURPOSE:

The hearing that resulted in these amendments was held as the result of a petition submitted by the Idarado Mining Company (Idarado). Idarado requested that the Commission, pursuant to 25-8-207 C.R.S., make a finding of inconsistency regarding certain use classifications and water quality standards in effect for the San Miguel River and related tributaries and that those classifications and standards be declared void ab initio. Idarado also requested that the Commission establish and adopt revised segment boundaries, use classifications and water quality standards for those waters. The Idarado proposal was opposed by the Division of Wildlife (DOW), the Town of Telluride, and San Miguel County (who were also parties to the proceeding), and by the Water Quality Control Division (WQCD).

Idarado owns the Idarado Mine located, in part, approximately one-half mile east of the Town

35.13 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE:
MARCH 1, 1993 HEARING:

The provisions of 25-8-202(1)(a), (b) and (2); 25-8-203; 25-8-204; and 25-8-402 C.R.S. provide the specific statutory authority for adoption of these regulatory amendments. The Commission also adopted in compliance with 24-4-103(4), C.R.S., the following statement of basis and purpose.

BASIS AND PURPOSE:

The changes to the designation column eliminating the old High Quality 1 and 2 (HQ1, HQ2) designations, and replacing HQ1 with Outstanding Waters (OW) designation were made to reflect the new mandates of section 25-8-209 of the Colorado Water Quality Act which was amended by HB 92-1200. The Commission believes that the immediate adoption of these changes and the proposals contained in the hearing notice is preferable to the alternative of waiting to adopt them in the individual basin hearings over the next three years. Adoption now should remove any potential for misinterpretation of the classifications and standards in the interim.

In addition, the Commission made the following minor revisions to all basin segments to conform them to the most recent regulatory changes:

1. The glossary of abbreviations and symbols were out of date and have been replaced by an updated version in section 3.5.6(2).
2. The organic standards in the Basic Standards were amended in October, 1991, which was subsequent to the basin hearings. The existing table was based on pre-1991 organic standards and are out of date and no longer relevant. Deleting the existing table and referencing the Basic Standards will eliminate any confusion as to which standards are applicable.
3. The table value for ammonia and zinc in the Basic Standards was revised in October, 1991. The change to the latest table value will bring a consistency between the tables in the basin standards and Basic Standards.
4. The addition of acute un-ionized ammonia is meant to bring a consistency with all other standards that have both the acute and chronic values listed. The change in the chlorine standard is based on the adoption of new acute and chronic chlorine criteria in the Basic Standards in October, 1991.

Finally, the Commission confirms that in no case will any of the minor update changes described above change or override any segment-specific water quality standards.

35.14 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY, AND PURPOSE (February, 1995 Rulemaking)

The provisions of 25-8-202(1)(b) and (2); 25-8-204; and 25-8-402 C.R.S. provide the specific statutory authority for adoption of these regulatory amendments. The Commission also adopted, in compliance with 24-4-103(4), C.R.S., the following Statement of Basis and Purpose.

BASIS AND PURPOSE:

The temporary modifications addressed in this hearing for segments 12 and 13 of the Upper Gunnison River, for cadmium and zinc, were previously adopted with an expiration date of December 31, 1994. For efficient utilization of resources, the Commission has extended the temporary modifications to December 31, 1996, so that these temporary modifications can be considered along with other issues in the overall Gunnison River Basin rulemaking hearing.

35.15 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE (1995 Silver hearing)

The provisions of C.R.S. 25-8-202(1)(b), (2) and 25-8-204; provide the specific statutory authority for adoption of these regulatory amendments. The Commission also adopted in compliance with 24-4-103(4) C.R.S. the following statement of basis and purpose.

BASIS AND PURPOSE

The changes described below are being adopted simultaneously for surface water in all Colorado river basins.

This action implements revisions to the Basic Standards and Methodologies for Surface Water adopted by the Commission in January, 1995. As part of a July, 1994 rulemaking hearing, the

Commission considered the proposal of various parties to delete the chronic and chronic (trout) table values for silver in Table III of the Basic Standards. As a result of that hearing, the Commission found that the evidence demonstrated that ionic silver causes chronic toxicity to fish at levels below that established by the acute table values. It was undisputed that silver is present in Colorado streams and in the effluent of municipal and industrial dischargers in Colorado. The evidence also demonstrated that the removal of silver from wastewater can be costly. However, there was strongly conflicting scientific evidence regarding the degree to which silver does, or could in the absence of chronic standards, result in actual toxicity to aquatic life in Colorado surface waters. In particular, there was conflicting evidence regarding the degree to which the toxic effects of free silver are mitigated by reaction with soluble ligands to form less toxic compounds and by adsorption to particulates and sediments.

The Commission concluded that there is a need for additional analysis of the potential chronic toxicity of silver in streams in Colorado. The Commission encouraged the participants in that hearing, and any other interested parties, to work together to develop additional information that will help resolve the differences in scientific opinions that were presented in the hearing. The Commission believes that it should be possible to develop such information within the next three years.

In the meantime, the Commission decided as a matter of policy to take two actions. First, the chronic and chronic (trout) table values for silver have been repealed for the next three years. The Commission is now implementing this action by also repealing for the next three years, in this separate rulemaking hearing, all current chronic table value standards for silver previously established on surface waters in Colorado. Any acute silver standards and any site-specific silver standards not based on the chronic table values will remain in effect. The Commission intends that any discharge permits issued or renewed during this period will not include effluent limitations based on chronic table value standards, since such standards will not currently be in effect. In addition, at the request of any discharger, any such effluent limitations currently in permits should be deleted.

The second action taken by the Commission was the readoption of the chronic and chronic (trout) table values for silver, with a delayed effective date of three years from the effective date of final action. The Commission also is implementing this action by readopting chronic silver standards with a corresponding delayed effective date at the same time that such standards are deleted from the individual basins. The Commission has determined that this is an appropriate policy choice to encourage efforts to reduce or eliminate the current scientific uncertainty regarding in-stream silver toxicity, and to assure that Colorado aquatic life are protected from chronic silver toxicity if additional scientific information is not developed. If the current scientific uncertainty persists after three years, the Commission believes that it should be resolved by assuring protection of aquatic life.

In summary, in balancing the policy considerations resulting from the facts presented in the July 1994 rulemaking hearing and in this hearing, the Commission has chosen to provide relief for dischargers from the potential cost of treatment to meet chronic silver standards during the next three years, while also providing that such standards will again become effective after three years if additional scientific information does not shed further light on the need, or lack of need, for such standards.

Finally, the Division notes that arsenic is listed as a TVS standard in all cases where the Water Supply classification is not present. This is misleading since Table III in the Basic Standards lists an acute aquatic life criterion of 360 ug/l and a chronic criterion of 150 ug/l for arsenic, but a

more restrictive agriculture criterion of 100 ug/l. It would be clearer to the reader of the basin standards if, for each instance where the standard "As(ac/ch)=TVS" appears, the standard "As=100(Trec)" is being inserted as a replacement. This change should make it clear that the agriculture protection standard would prevail in those instances where the more restrictive water supply use protective standard (50 ug/l) was not appropriate because that classification was absent.

The chemical symbol for antimony (Sb) was inadvertently left out of the "Tables" section which precedes the list of segments in each set of basin standards. The correction of this oversight will aid the reader in understanding the content of the segment standards. Also preceding the list of segment standards in each basin is a table showing the Table Value Standards for aquatic life protection which are then referred to as "TVS" in the segment listings. For cadmium, two equations for an acute table value standard should be shown, one for all aquatic life, and one where trout are present. A third equation for chronic table value should also be listed. The order of these three equations should be revised to first list the acute equation, next the acute (trout) equation, followed by the chronic equation. This change will also aid the reader in understanding the intent of the Table Value Standards.

PARTIES TO THE PUBLIC RULEMAKING HEARING JUNE 12, 1995

1. Coors Brewing Company
2. The Silver Coalition
3. Cyprus Climax Metals Company
4. The City of Fort Collins
5. The City of Colorado Springs

35.16 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE (December, 1995 Rulemaking)

The provisions of C.R.S. 25-8-202(1)(b), (2); 25-8-204; and 25-8-402 C.R.S. provide the specific statutory authority for adoption of these regulatory amendments. The Commission also adopted in compliance with 24-4-103(4) C.R.S. the following Statement of Basis and Purpose.

BASIS AND PURPOSE

The temporary modifications addressed in this hearing for segments 12 and 13 of the Upper Gunnison river, for cadmium and zinc, were previously adopted with an expiration date of December 31, 1996. For efficient utilization of resources, the Commission has extended the temporary modifications to December 31, 1997, so that these temporary modifications can be considered along with other issues in the overall Gunnison River Basin rulemaking hearing, which is currently scheduled for June, 1997.

35.17 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE (June, 1997 hearing)

The provisions of 25-8-202(1)(a), (b) and (2), 25-8-203; 25-8-204; and 25-8-402 C.R.S. provide the specific statutory authority for adoption of these regulatory amendments. The Commission also adopted, in compliance with 25-4-103(4) C.R.S. the following statement of basis and purpose.

BASIS AND PURPOSE

1. Resegmentation

Extensive renumbering of segments was made throughout the basin due to information which showed that:

- a. The original reasons for segmentation no longer applied.
- b. New water quality data showed that streams should be resegmented based on changes in their water quality.
- c. Certain segments could be grouped together in one segment because they had similar quality and uses.
- d. Certain segments were originally listed under the incorrect basin and have now been listed in the appropriate basin.

2. Wetlands

In March, 1993, the Commission amended the Basic Standards and Methodologies for Surface Water, Regulation 31 (5 CCR 1002-31) to include wetlands in the stream classification and standards system for the state. Due to that action, it became necessary to revise the segment description for all segments of the "all tributary" type to clarify that wetlands were also part of the tributary system for a given mainstem segment. All tributary wetlands now clearly carry the same classifications and standards as the stream to which they are tributary as provided for in 31.13(1)(e)(iv).

Information was submitted in the hearing that the Water Quality Control Division has been working with the Colorado Geological Survey to develop methodologies to measure the functions of wetlands. The development of such methodologies is an important implementation issue with respect to water quality standards for wetlands and the supports the Division's efforts in this regard.

3. Manganese Standards

On all segments classified for water supply and aquatic life uses, the total recoverable manganese standard of 1,000 ug/l was stricken. The aquatic life manganese criterion was changed in 1991 revisions to the Basic Standards from total recoverable to dissolved and on these segments a more stringent dissolved manganese water supply standard of 50 ug/l is in place. On segments classified for aquatic life and not water supply, the 1000 ug/l standard is designated as dissolved.

4. Mercury Standard

The Basic Standards include the note that the standard for mercury is based on the Final Residual Value (FRV), and that mercury in the total form is the proper way to express that value. Therefore, the Commission decided to change the (TREC) notation for mercury to (tot) in all cases where it appeared.

5. Conversion to Dissolved Metals

Several segments in the previous version of the classifications and standards for these basins contained standards for metals as "total recoverable". The Commission previously determined

that standards for most metals should be expressed as dissolved, necessitating conversion of those metals standards for the following segments:

Upper Gunnison Basin segments 11 and 12 (previously segments 12 and 13; temporary modifications for total recoverable metals deleted), 29 (previously segment 31).

Uncompahgre River segments 2, 3, 7, 8, and 9.

San Miguel River segments 2, 3a, 3b, 6a, 6b, 7a and 8.

6. Changes Necessary to Comply with “Swimmable” Requirements

The Commission has reached an understanding with EPA regarding the classification and standards necessary to comply with the goal established in the federal Clean Water Act that all waters of the nation be suitable for recreation in and on the water. In Colorado, that requirement translates into a Recreation, Class 1, with the 200 fecal coliform/100 ml standard wherever swimming, rafting, etc. are in place or have the potential to occur; Recreation, Class 2, with 200 fecal coliform/100 ml standard wherever secondary contact recreation only is practiced, and the existing quality supports a class 1 recreation use and with consideration of the lack of significant increased treatment costs; and Recreation, Class 2, with the 2000 fecal coliform/100 ml standard in most other situations. This policy has resulted in recreation classification and/or fecal coliform standard modifications to the following segments:

Upper Gunnison Basin segments 4, 5, 6a and 6b (previously 6b and 6c), 7, segments 8 through 12 (previously 9 through 13), segments 16 through 19 (previously 17 through 20), segments 21 through 24 (previously 22 through 25), segment 26 (previously 27), segments 28 through 30 (previously 29 through 31), and segment 32 (previously 33).

North Fork Gunnison segment 2.

Uncompahgre River segments 3, 5, 7, 8, 9 (previously 9a), 13, and 15.

Lower Gunnison River segments 6, 7, 8, and segments 10 and 11 (previously North Fork segments 8 and 9).

San Miguel River segments 3b, 4, 5, and 8.

Dolores River segments 4 and 5 (previously 5 and 6).

Concerns were raised in this hearing regarding the potential impact of more stringent fecal coliform standards on agricultural and ranching practices. Ranching and agriculture have been extensive in the Upper Gunnison River Basin. The Upper Basin Parties submitted testimony that these uses date back to the late 1800s and have been a continuing integral economic and social factor in the basin. The Commission recognizes the extent of this use of land within the basin, and that ranching and agriculture have co-existed with a high level of water quality in the basin. The Commission summarizes the extent of agricultural and ranching use within the basin as a helpful baseline should issues involving compliance with fecal coliform standards in the future involve agricultural and ranching activities.

The testimony submitted indicates that the large majority of water rights and uses within the basin are decreed for agricultural uses. There are approximately 1,500 absolute ditch rights within the basin decreed only for agricultural and irrigation uses, representing total decreed diversions of more than 7,700 c.f.s. As of 1997, the following acreage was classified within the basin as agricultural for taxing purposes:

<u>County</u>	<u>Acres</u>
Gunnison	343,742
Hinsdale	7,292
Saguache	54,299

The testimony also indicated that the Colorado Agricultural Statistics Service census of 1992 shows the total number of cattle and calves in Gunnison County as 30,713 head, and the Service estimates the total number as of January 1, 1997, was 31,343. The BLM reports there are 85 grazing permeates and 45,133 AUMs within its Gunnison Resource Area. The Forest Service reports that within its Taylor River Ranger District, there are 29 active allotments, encompassing 688,260 Forest Service acres, and a total number of 9,119 permitted livestock, and 8,893 of authorized livestock. Within the Cebolla Ranger District, the Forest Service reports there are 36 active allotments encompassing 552,529 acres, and a total number of 12,662 permitted livestock, and 13,395 authorized livestock.

The Commission finds that this degree of agricultural activities in the Gunnison Basin has existed in this region while the fecal coliform levels have been maintained at lower concentrations than the more stringent fecal coliform standards being adopted for a number of stream segments, as described above.

The Commission has previously stated that the fecal coliform standard is to be implemented with a rebuttable presumption that high densities of fecal coliform identified in water quality samples are due to human fecal pollution. The focus of the existing regulatory system for bacteriological parameters is on identifying and controlling sources of human waste that may be discharged to waters of the state without adequate treatment.

Parties to the hearing also proposed that the Commission adopt “an additional indicator that would distinguish between human fecal coliform and animal fecal coliform.” Based on the information submitted, it does not appear that any such indicator is available at this time.

7. Upgrading of Class 2 Aquatic Life Segments

The Commission decided to adopt upgraded classifications and/or a more complete set of standards for several segments where the Division recommended such changes based on recent sampling of the biota by the Division of Wildlife (DOW) and the Water Quality Control Division. In general, these segments were previously thought to contain very little aquatic life, and were appropriate for the Class 2, minimal standards application found on most intermittent streams. However, the biological data referred to above indicated that a more diverse and rich aquatic life community existed, including threatened species. The Commission has chosen to recognize these facts by the adoption of a higher aquatic life classification and/or a complete set of protective standards. The segments/streams affected are:

Uncompahgre River segment 15.

Lower Gunnison River segment 9.

In addition, based on testimony by the Division of Wildlife, several specific creeks that had been included in segments with minimal standards were moved to segments with the usual aquatic life table value standards. These creeks are now located in:

Upper Gunnison segment 6b.

Uncompahgre segment 11.

San Miguel segment 10.

Lower Dolores segment 5.

8. Full Standards Not Applied to Aquatic Life Segments

EPA raised the issue of why the full set of inorganic aquatic life protection standards were not applied to various segments recommended for aquatic life class 2 classification. These segments typically were assigned only dissolved oxygen, pH, and fecal coliform standards. It was EPA's position that if there were dischargers located on the segments with the potential to produce toxic levels of one or more of the pollutants not contained in the abbreviated list of standards, the aquatic life in the segment could be jeopardized. Rather than adopt the full set of inorganic standards, the Commission was persuaded by the Division's arguments that the abbreviated list of standards was sufficient to protect the rudimentary aquatic life found in these intermittent streams, and that there was a very low probability that any of the few dischargers located on these segments would discharge toxic effluents. The segments where this policy was followed are:

Upper Gunnison Basin segments 6a, 13 (formerly 14), 15 (formerly 16), 27 and 31.

North Fork Gunnison segment 6.

Uncompahgre River segments 6, 10, and 12.

Lower Gunnison River segments 4, and 12.

San Miguel River segment 12.

Dolores River segment 3.

As noted above, where specific creeks within these segments were identified with aquatic life that warrants additional standards, they were moved into segments with the usual aquatic life table value standards.

9. Outstanding Waters Designations

The Commission followed the recommendations of the Division in assigning the Outstanding Waters (OW) designation to all waters covered by this regulation that are within the La Garita, West Elk, Collegiate Peaks, Maroon Bells, Ragged, Oh-Be-Joyful, Big Blue, Mt. Sneffels, and Lizard Head wilderness areas. Division water quality data indicated all antidegradation parameters to be well within table values and several of the wilderness waters provided habitat to ecologically significant species, i.e. Colorado River cutthroat trout and the boreal toad.

Uncompahgre River segment 1.

North Fork Gunnison segment 1.

San Miguel River segment 1. (Waters of the Sneffels Wilderness Area within the San Miguel watershed were added to Segment 1.)

The Commission also rejected a proposal by the High Country Citizens' Alliance (HCCA) and Western Slope Environmental Resource Council (WSERC) to adopt an outstanding waters designation for Upper Gunnison segment 25 and Lower Gunnison segment 1. These segments--which include Blue Mesa, Morrow Point and Crystal Reservoirs, as well as the Black Canyon of the Gunnison and the Gunnison Gorge--are located downstream of significant development in the Gunnison Basin and include reservoirs that are actively managed for a variety of purposes. The Commission does not believe that a showing has been made that adoption of the outstanding waters designation is necessary and appropriate for these waters at this time. The Commission is receptive to hearing future proposals regarding the adoption of outstanding waters designation or other forms of extra protection for these waters, supported by additional research and information regarding the implications of such protection for other activities in or upstream from such segments, particularly if broad support for any such proposals can be developed.

10. Use-Protected Designations

In a previous "Basic Standards" rulemaking, the Commission changed the basis for assigning the use-protected designation by eliminating the automatic assignment where recreation class 2 was a classified use. In this comprehensive review of the basin classifications, designations, and standards, the Commission removed one use-protected designation in order to be consistent with that Basic Standards revision. This segment is:

Upper Gunnison Basin segment 10 (previously segment 11).

In addition, the Commission added the use-protected designation to several segments that met the criteria for use-protected. These are:

Uncompahgre River segments 6, 7, 8, 9, and 15.

Lower Gunnison River segment 9.

The Commission also rejected a proposal by HCCA and WSERC to remove the use-protected designations for several other stream segments. In each instance, the segments in question are classified as aquatic life class 2. The Basic Standards and Methodologies for Surface Water provide that this classification requires a use-protected designation, unless the Commission determines "that those waters with exceptional recreational or ecological significance should be undesignated, and deserving of the protection afforded by the antidegradation review provisions." Section 31.8(2)(b)(i). The evidence submitted in this hearing was not adequate to support such a finding.

11. Ambient Quality-Based Standards

The Division presented extensive information in its Exhibit 1 regarding ambient chemical quality of many segments in the basin. In most cases ambient quality was well within the “table value” limits prescribed by the Basic Standards for the protection of the various classified uses, prompting the Commission to assign those table values as segment standards. In a few cases, however, ambient quality exceeded the table values, yet there was information to suggest that the use was in place nonetheless. The available information lead to the conclusion that there was little hope of reversing the cause for degradation within twenty years. In those instances, the Commission followed the recommendation of the Division to adopt the 85th percentile of the ambient data as the standard (ambient quality-based standard). The following is a list of those segments where such standards have been adopted:

Upper Gunnison Basin segments 10, 11, 12 (formerly 11, 12, and 13) and 31.

North Fork Gunnison segment 4.

Uncompahgre River segments 2, 3, 4, and 7 .

EPA expressed concern in the hearing regarding the basis for adopting ambient quality-based water quality standards. The Commission encourages the Division to work with EPA to explore the potential for developing more standardized criteria for determining that such standards are appropriate on a site-specific basis.

12. Temporary Modifications

In several instances, the Commission decided to establish temporary modifications to table value standards as an alternative to establishing an ambient-based standard. This practice was followed where there was information to suggest the underlying standard could be met within three years to five years, or where there were questions surrounding the data which could be clarified with additional sampling. Temporary modifications adopted for several segments for selenium standards are discussed separately below. The segments where other temporary modifications were established or modified are:

Upper Gunnison segment 8.

Uncompahgre segment 4.

Lower Gunnison River segment 9.

San Miguel River segments 3a and 3b. (See separate discussion below.)

13. Water + Fish Organics Applied to Aquatic Life Segments

It is the policy of the Commission to establish the water+fish organics standards found in the Basic Standards for those Class 2 aquatic life segments where fish of a catchable size and which are normally consumed are present and there is evidence that angling takes place on a recurring basis. Based on these criteria and the testimony submitted, the Commission has chosen to assign the water+fish organics standards to the following class 2 aquatic life segments:

Uncompahgre River segments 4, 9 and 13.

Lower Gunnison River segments 7 and 8.

14. Selenium Standards

In October of 1995, the Commission promulgated new aquatic life table value standards (TVS) for selenium, i.e., 20 ug/l acute and 5 ug/l chronic. At that time, the Commission adopted a footnote to the TVS which acknowledged that “selenium is a bioaccumulative metal and subject to a range of toxicity values depending upon numerous site-specific variables.” The simultaneously adopted Statement of Basis and Purpose further elaborated upon this point, indicating that there exists the opportunity to develop “ambient or site-specific water quality standards on a basin-by-basin or specific segment basis,” and identifying a number of site-specific factors that may be pertinent in the establishment of appropriate standards. Finally, the Commission noted that “a selenium standard need not be adopted during the course of triennial or segment specific rulemakings unless it is determined that the discharge or presence of selenium in the affected waters reasonably could be expected to interfere with the classified uses”

In this basin-specific rulemaking, the Commission has decided to adopt the selenium TVS for most segments in the Gunnison and Lower Dolores basins. Temporary modifications, however, based on the 85th percentile of ambient data with an underlying TVS of 5 ug/l chronic and 20 ug/l acute, have been adopted for the segments identified below.

Uncompahgre River Segment 4.

Uncompahgre River Segment 14 (Sweitzer Lake).

Lower Gunnison River Segment 2.

North Fork Gunnison River Segment 5.

The Commission may revisit the question of ambient standards at some point in the future.

The Commission is hopeful that adoption of temporary modifications for these four segments will assist in reducing the existing high selenium levels. This action will establish interim goal-based criteria for selenium on these segments, ensure that there will be no further increases in selenium concentration for these waters as a result of regulated sources, and provide a mechanism to spur progress in improving water quality and attaining the goal-based standard. Furthermore, the temporary modifications may assist the Division in writing NPDES permits for any point source discharges while restoration efforts for nonpoint sources of selenium are underway - the temporary modification will serve as the basis for calculating the interim effluent limits for such permits.

Most important, however, the temporary modifications provide a mechanism to address the existing high selenium concentrations in these segments. For example, adoption of temporary modifications will allow these segments to be listed pursuant to Clean Water Act (CWA) section 303(d) and section 305(b) - sections of the Act which require identification of water quality-limited segments. These listings, in turn, will increase the potential for funding for selenium control projects. Although it may become necessary to further revise the selenium numeric standards as additional information becomes available, it is hoped that this action will benefit efforts aimed at reducing the existing high selenium levels in these four segments.

In adopting the above standards and temporary modifications, the Commission took into consideration a number of factors, including statements from EPA and the USFWS that an ambient standard for the above-referenced segments may not be approved by EPA because of concerns over (i) the potential impacts of such an elevated concentration upon fish and wildlife, with specific reference to the federally listed endangered species in the Lower Gunnison River Segment 2; (ii) the need for EPA to meet its consultation responsibilities under Section 7 of the Endangered Species Act; and (iii) the uncertainty as to whether the present condition is reversible.

The Commission acknowledges that there is also uncertainty associated with what will eventually prove to be the appropriate selenium standard for segments in this basin. For example, EPA is currently reexamining its national criteria for selenium. The USFWS is completing additional work on the potential impact of selenium upon razorback suckers, with a final report due in early 1998. Additional work is also being performed upon perfecting site specific methods of standard determination, including a sediment-total organic carbon model and uptake of selenium in aquatic biota.

Additional uncertainties presently exist concerning (i) the relative contributions of varying sources to the existing high ambient levels; (ii) whether these levels can be significantly reduced within 20 years or, stated another way, the pace of restoration efforts; (iii) what BMPs or other treatment technology exists or may be developed in the near future to achieve such a reduction; and (iv) the extent of measurable improvements in the aquatic ecosystem if the underlying TVS of 5 ug/l chronic is achieved.

Furthermore, it is currently unknown whether adequate funds can be found to undertake prevention and remediation measures, with specific reference to the control of nonpoint sources of selenium loading. The interested parties, together with the EPA, USFWS, and the Division shall cooperate in identifying sources of funds and, to the extent possible, obtaining needed monies, including funds which may be available under Section 319 of the Clean Water Act, from the US Department of Agriculture pursuant to the Environmental Quality Improvement Program (EQIP), the US Bureau of Reclamation through the Colorado River Salinity Control Program or the US Department of Interior through the Irrigation Drainage Program. The EPA, USFWS, and the Division, in their testimony, agreed to express to the Colorado River Basin Salinity Control Forum, in writing, their position that salinity control projects which simultaneously reduce loading should receive funding priority.

The interested parties to the hearing, the federal agencies, and landowners in the vicinity of the affected reaches have expressed an interest in employing voluntary, cooperative prevention and remediation practices for purposes of reducing selenium loading and improving water quality. The Commission encourages the formation of a Task Force for this purpose, and urges the Division to cooperate in such an effort. This Task Force could employ the TMDL concept in seeking to achieve the underlying TVS for selenium.

The Division has indicated to the Commission that it may take a minimum of five years to identify, fund and implement selenium control projects in these basins which may measurably improve water quality in the segments of concern. Thus, though the segments with a temporary modification will be reviewed at the end of three years, it is not anticipated that there will be any significant changes at that time.

15. Site-Specific Issues

a. Coal Creek

In response to a proposal by Climax Molybdenum Company (CMC), the Commission has adopted ambient quality-based standards for several metals for Coal Creek, segments 11 and 12 of the Upper Gunnison Basin (formerly segments 12 and 13). CMC submitted evidence that elevated metals levels in these segments are caused by “natural or irreversible man-induced” impacts. In adopting these standards, the Commission recognizes the following agreements between the parties with respect to these segments:

CMC agrees to assist HCCA in performing a reconnaissance study consisting of physical surveillance and high flow and low flow water quality monitoring in segment 11 with the objective of identifying sources of Cd, Fe, Mn and Zn.

CMC agrees to work with other parties, which may include the Town of Crested Butte and Gunnison County, to pursue development of a remedial project (or projects) to be funded by the section 319 nonpoint source grant program if such project (or projects) appear feasible.

HCCA agrees to support the adoption of the ambient based standards proposed by CMC for segments 11 and 12.

b. Indian Creek

Homestake Mining Company expressed concern about the Division’s initial proposal to eliminate separate segments for Indian Creek (formerly Upper Gunnison segments 21a and 21b) and to add these waters into the segment for Marshall Creek (formerly Upper Gunnison segment 22). Following consideration of the evidence, including an agreement between the Division and Homestake, the Commission has left the upper portion of Indian Creek (formerly segment 21a, now segment 20) as a separate segment. The lower portion of Indian Creek (formerly segment 21b) has been added to the Marshall Creek segment (formerly segment 22, now segment 21).

c. North Fork segments 2 and 3

The Commission considered a proposal by HCCA and WSERC to move the segment boundary between North Fork segments 2 and 3 further downstream, to account for primary contact recreation activities in the upper portion of segment 3 as previously defined. The evidence does demonstrate that primary contact recreation uses currently occur in these waters. Following an extensive discussion of alternative potential resegmentation options, the Commission has established the new segment boundary at the Black Bridge, on which 4175 Drive crosses the river. The evidence indicates that the majority of the primary contact recreation use occurs above that point.

d. Fruitgrowers Reservoir

In response to a proposal by the Division, the Commission has established a new segment for Fruitgrowers Reservoir--segment 9 in the Lower Gunnison Basin. The evidence demonstrates that aquatic life class 2, recreation class 1 and agriculture are appropriate classifications for this reservoir based on actual current or recent past uses of these waters. In view of the reservoir’s current degraded quality, the Commission has adopted a goal qualifier for the recreation classification and temporary modifications for the un-ionized ammonia and fecal coliform

standards. The Commission appreciates and wishes to encourage the efforts of interested entities in the area to undertake a cooperative, inter-governmental two-year study to better determine the cause of current water quality problems in the reservoir. The Commission requests that the Division provide to the Commission an update regarding the status of these study efforts in the fall of 1998.

e. San Miguel segments 3a and 3b

The extensive data submitted in evidence demonstrate that the zinc levels in San Miguel River segments 3a and 3b exceed the current numeric standard of 190 ug/l of dissolved zinc (chronic) applicable to both segments. It is unclear whether that standard can be met within 20 years. Under a 1992 Consent Decree with the State of Colorado, Idarado Mining Company is pursuing activities pursuant to a Remedial Action Plan ("RAP") to remediate historic mining impacts in the upper reaches of the San Miguel River and Red Mountain Creek drainages, in order to enhance water quality. One performance objective of the RAP is to reduce zinc levels at a compliance point within San Miguel River segment 3b to 276 ug/l of dissolved or 336 ug/l of total zinc, on an average annual basis. The Commission will review the appropriateness of the 190 ug/l dissolved zinc (chronic) standard for segments 3a and 3b in future rulemakings to assess whether it should be adjusted to reflect actual water quality achievable and the uses that are attainable in light of Idarado's remediation efforts. In addition, five-year temporary modifications of 410 ug/l and 640 ug/l for dissolved zinc in segments 3a and 3b, respectively, to reflect ambient water quality are justified in light of the anticipated water quality enhancement resulting from Idarado's actions, and to coincide with the start of the compliance period under the RAP. Nothing in this rulemaking is intended to adjust, modify, or abrogate the Consent Decree or RAP.

f. New Water Supply Segments

In response to a request by HCCA and WSERC, the Commission has added a water supply classification, and corresponding numerical standards, to the following three segments:

Upper Gunnison segments 8 (formerly 9) and 15 (formerly 16).

North Fork segment 6.

In each case, evidence was submitted that alluvial ground water hydrologically connected to these surface waters is used through domestic wells as a water supply. For Upper Gunnison segment 8, the Commission also adopted temporary modifications for iron and manganese, in view of evidence that current levels of these constituents are elevated above table values.

16. Other Proposals

EPA expressed concern in the hearing regarding whether documentation had been provided of an adequate "use attainability analysis" for segments whose classifications do not achieve the "fishable, swimmable" goals of the federal Clean Water Act. Based on the information provided, the Commission has adopted the Division's proposals for the waters in question. The Commission encourages the Division to work with EPA to assure that adequate documentation of the Division's use attainability analysis conclusions has been provided.

HCCA and WSERC requested that the Commission take action in this hearing to prohibit future in-stream gravel mining. The Commission has determined that this proposal is not relevant to the water quality designation, classification and standards issues raised in this hearing.

**35.18 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE;
JULY, 1997 RULEMAKING**

The provisions of sections 25-8-202 and 25-8-401, C.R.S., provide the specific statutory authority for adoption of the attached regulatory amendments. The Commission also adopted, in compliance with section 24-4-103(4) C.R.S., the following statement of basis and purpose.

BASIS AND PURPOSE

The Commission has adopted a revised numbering system for this regulation, as a part of an overall renumbering of all Water Quality Control Commission rules and regulations. The goals of the renumbering are: (1) to achieve a more logical organization and numbering of the regulations, with a system that provides flexibility for future modifications, and (2) to make the Commission's internal numbering system and that of the Colorado Code of Regulations (CCR) consistent. The CCR references for the regulations will also be revised as a result of this hearing.

**35.19 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE;
APRIL, 1998 RULEMAKING**

The provisions of sections 25-8-202(1)(b) and (2); 25-8-204; and 25-8-402 C.R.S. provide the specific statutory authority for the adoption of these regulatory amendments. The Commission also adopted in compliance with section 24-4-103(4) C.R.S. the following Statement of Basis and Purpose.

BASIS AND PURPOSE

As the result of a June, 1997 rulemaking hearing considering numerous proposed revisions to Gunnison River Basin water quality standards, the Commission decided to apply recently revised aquatic life table value criteria for selenium (20 ug/l acute and 5 ug/l chronic) to many segments in the basin. The basis for this action is discussed in paragraph 14 of the Statement of Basis and Purpose for that rulemaking (section 35.21). However, it was later noticed that in that rulemaking the Commission inadvertently neglected to revise the listing of selenium table values contained in section 35.6(3) of the regulation. In this rulemaking, the Commission is correcting the listing of selenium table values in section 35.6(3). The Commission is also deleting reference to March 2, 1998 effective date for silver table values, since that date has now passed.

**35.20 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE;
DECEMBER, 1998 RULEMAKING**

The provisions of sections 25-8-202(1)(b) and (2); 25-8-204; and 25-8-402 C.R.S. provide the specific statutory authority for the adoption of these regulatory amendments. The Commission also adopted in compliance with section 24-4-103(4) C.R.S. the following Statement of Basis and Purpose.

BASIS AND PURPOSE

The Commission has recently approved a new schedule for triennial reviews of water quality classifications and standards for all river basins in Colorado. In this hearing the Commission has extended the expiration dates of temporary modifications [and, for the Animas Basin, the effective dates of underlying standards] without substantive review, so that the next substantive review of the temporary modifications can occur as part of the overall triennial review of water quality standards for the particular watershed. This will avoid the need for multiple individual hearings that would take staff resources away from implementation of the new triennial review schedule.

35.21 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE;
JULY, 2001 RULEMAKING

The provisions of C.R.S. 25-8-202(1)(a), (b) and (2); 25-8-203; 25-8-204; and 25-8-402; provide the specific statutory authority for adoption of these regulatory amendments. The Commission also adopted in compliance with 24-4-103(4) C.R.S. the following statement of basis and purpose.

BASIS AND PURPOSE

A. Resegmentation

Some renumbering and/or creation of new segments were adopted in the basin due to information which showed that: a) the original reasons for segmentation no longer applied; b) new water quality data showed that streams should be resegmented based on changes in their water quality; and/or c) certain segments could be grouped together in one segment because they had similar quality and uses. The following changes were made:

Upper Gunnison, Segment 13: Woods Creek was separated into segments 13a and 13b to reflect the differences in recreation use.

Upper Gunnison, Segments 20 and 21: Lower portion of Indian Creek was moved from Segment 21 to Segment 20 to reflect the correct Uranium standard for that segment and lack of water supply use.

Upper Gunnison, Segments 26, 27 and 28: The Commission has decided to revise the segmentation of Segments 26, 27 and 28 of the Upper Gunnison River Basin based on the following rationale:

- Existing ambient water quality conditions of waters flowing into or which are present within Curecanti National Recreation Area meet or are better than those required by The Basic Standards and Methodologies for Surface Water (5 CCR 1002-31) for Aquatic Life Cold 1.
- These waters support an abundance of aquatic life. Many waters support a fishery which includes but is not limited to Rainbow Trout and Brook Trout, and have been identified as a potential in supporting state threatened Colorado River Cutthroat trout.
- Blue Mesa, Morrow Point and Crystal reservoirs, as well as portions of the mainstem of the Gunnison River and Lake Fork of the Gunnison offer significant natural resource values dedicated to public use as Curecanti National Recreation Area.

These waters are classified as Aquatic Life Cold 1, Recreation 1 and it follows that the tributaries to these significant economic and natural resources have classifications as good or better.

- This resegmentation provides a watershed approach to this portion of the Upper Gunnison basin.

North Fork, Segment 2: The segment description was modified to more accurately reflect the beginning of the mainstem of the North Fork of the Gunnison.

North Fork, Segment 5: The segment description was modified to include the entire Roatcap Creek system. This change better reflects the aquatic life cold 1 uses of Roatcap Creek.

Uncompahgre, Segment 3 and 4: The segment descriptions were modified to clarify the transition point in the Uncompahgre River between cold (segment 3) and warm (segment 4) water aquatic life uses.

Uncompahgre, Segment 4: This segment was resegmented into segments 4a, 4b and 4c to account for significant differences in recreational activities which occur along the mainstem of the lower Uncompahgre River. A UAA demonstrated that segment 4b (the Uncompahgre River from La Salle Road to Confluence Park) does not support recurring primary contact recreation.

Uncompahgre, Segment 6: Red Mountain Creek was separated into Segments 6a and 6b to reflect the differences in aquatic life uses.

Uncompahgre, Segment 15: Segment 15 was changed to 15a. The mainstem of Dry Creek from the confluence of the East and West Forks to the boundary of the BLM land was removed from Uncompahgre segment 15a and placed into a new Uncompahgre segment 15b based on significant differences in recreational usage. Dry Creek supports rafting and kayaking during some times of year; whereas, a UAA has demonstrated that primary contact recreation is unattainable in the rest of segment 15.

Lower Gunnison, Segment 4: The lakes and reservoirs from segment 4 were separated into a new segment 4b; along with Kannah Creek below the water supply diversion to reflect the recreation 1a uses of these waterbodies. The remainder of segment 4 was renamed segment 4a.

Lower Gunnison, Segment 11: Doug Creek was added to the segment description to better reflect its cold water class 1 aquatic life use.

B. Manganese

The aquatic life manganese criterion was initially changed in the 1997 revisions to the Basic Standards (5 CCR 1002-31) from a single chronic dissolved criterion to acute and chronic hardness-based equations. The equations were further modified in the 2000 revisions to the Basic Standards. The new manganese acute and chronic equations were added as table value standards in 35.6(3). As a result of the adoption of these new TVS, all segments classified for aquatic life use that had a chronic total recoverable manganese standard of 1,000 µg/L had the 1,000 standard stricken and replaced with Mn(ac/ch)=TVS.

C. Selenium

The regulation in 35.6 (3) listed the table value standards for selenium as Acute=20 µg/L and Chronic=5 µg/L. This was updated to reflect the existing acute and chronic criteria for selenium listed in the Basic Standards as Acute=18.4 µg/L and Chronic=4.6 µg/L which was adopted in 2000 by the Commission. This change means that all segments with standards for selenium given as TVS now have these lower acute and chronic standards.

The Commission adopted the table value standards for selenium and temporary modifications of existing ambient quality for selenium for Uncompahgre segment 12, Lower Gunnison segments 4a and 4b, and North Fork segment 6. The Commission also extended the temporary modifications for selenium for Uncompahgre segments 4a, 4b, 4c, and 14 Lower Gunnison segment 2, and North Fork segment 5. The temporary modifications were adopted or extended pursuant to section 31.7(3)(a)(iii) of the Basic Standards regulation, based on the fact that there is significant uncertainty as to the appropriate underlying selenium standard for these segments. The reason for the adoption of the temporary modifications is noted in temporary modifications and qualifiers column of the table.

Water quality monitoring has demonstrated a severe selenium problem in the Lower Gunnison and Uncompahgre River Basins. The Gunnison River Selenium Task Force has been working since 1998 to evaluate the sources of selenium loading to the mainstem of the Uncompahgre and Gunnison rivers and methods to reduce those loads. To date, the effort has focused on attempting to meet the standards in the Uncompahgre and Gunnison River mainstems. Much of this effort has involved evaluating opportunities to reduce the loading, but not necessarily the concentrations, in the tributaries to both the lower Uncompahgre and lower Gunnison Rivers.

Selenium reduction in the Uncompahgre and Gunnison River Basins is a very complex issue. The tributaries to the Uncompahgre and Gunnison River pass through selenium-laden Mancos shale soils, and the extent to which the current levels of selenium are the result of natural sources, reversible activities, and/or irreversible activities is unknown at this time. Therefore, it is not clear whether the table value standards are achievable in these segments. The Commission does not intend its actions to in any way impede the efforts of the Selenium Task Force to reduce selenium loading in the Uncompahgre and Gunnison Rivers. The Commission intends that the actions taken in this hearing will mark the beginning of a process to identify the appropriate long-term selenium standards for these segments. It is expected that the efforts of the Selenium Task Force and others may result in the adoption of site-specific standards for selenium in some or all of the affected segments.

D. Removal of Use Protected Designation

The Division proposed that a number of aquatic life class 2 waterbodies be assigned undesignated status under the state antidegradation regulation due to the presence of Colorado State species of special concern. State regulations governing the “use-protected” designation allow this exception if the Commission determines that the waters are of exceptional ecological significance. The Commission believes that a number of important issues have been raised in this hearing regarding when and how this exception should be applied, and that further examination of these issues should occur. Nevertheless, for purposes of this hearing, the Commission, based upon a concern over the protection of classified uses and the absence of evidence of potential injury to permitted entities, has decided to accept the change to reviewable water status for the following:

Lower Dolores, Segment 4

Based upon representations made by certain parties to this rulemaking, the Commission endorses the formation of a workgroup to address the following topics and develop recommendations to be submitted to the Commission

- The relationship between the “exceptional ecological significance” exception to use-protected designations and the aquatic life class 2 basis for applying use-protected designations
- The need for and content of guidance to determine what water bodies are exceptionally ecologically significant
- The roles of a) water quality data; b) the nexus between water quality conditions and species decline, and c) other stressors, in using this exception
- The need for and nature of any amendments to the state antidegradation regulation if the presence of species of special concern constitute a basis for modification to the antidegradation designation of a water body.

The above listed segments would then be reviewed in light of the work group recommendations in the next triennial review of these basins.

The Commission urges that the work group process to address these issues move forward as expeditiously as possible. The Commission intends that the actions taken in this rulemaking not serve in any way as a precedent with respect to decisions in future Commission rulemaking proceedings.

E. Recreation Classifications/Fecal Coliform and E. Coli Standards

The biological standards were updated to include the dual standards for E. coli and fecal coliform, which were adopted by the Commission in the 2000 revisions to the Basic Standards. As stated in the statement of basis for the Basic Standards revisions, the Commission intends that dischargers will have the option of either parameter being used in establishing effluent limitations in discharge permits. In making section 303(d) listing decisions, in the event of a conflict between fecal coliform and E. coli data, the E. coli data will govern. The Commission believes that these provisions will help ease the transition from fecal coliform to E. coli standards.

In a continuation of the Commission’s efforts to comply with the requirements contained in the federal Clean Water Act that all waters of the nation should be suitable for recreation in and on the water (known as the “swimmable” goal), the Commission reviewed all Recreation Class 2 segments. In Colorado, the “swimmable” goal translates into Recreation Class 1a, with the 200/100 ml fecal coliform and 126/100 ml E. Coli standard, and Class 1b with the 325/100 ml fecal coliform and 205/100 ml E. coli standard. Class 1a indicates waters where primary contact uses have been documented or are presumed to be present. Class 1b indicates waters where no use attainability analysis has been performed demonstrating that a recreation class 2 classification is appropriate, but for which no existing primary contact uses have been documented following a reasonable level of inquiry. A Recreation Class 2 classification must be

supported by a use attainability analysis that shows that there is not a reasonable potential for primary contact uses.

There was considerable evidence and testimony submitted in this hearing regarding what activities should be considered primary contact recreation. Section 31.13(1)(a) of the Basic Standards provides a non-exclusive list of primary contact activities. In this hearing, much discussion focused on the issue of whether “child’s play” in streams that are too shallow to accommodate the primary contact uses listed in the Basic Standards should be considered a primary contact use. The Commission does not believe that a theoretical potential for child’s play means that all streams should be classified Recreation Class 1a or 1b. However, the Commission concludes that the evidence submitted demonstrates that there is a potential risk of ingestion of small quantities of water by children playing in relatively shallow streams, based on the hand-to-mouth pathway, which warrants Recreation Class 1 protection in appropriate circumstances as elaborated below. Thus, such ingestion may occur in streams where whole body immersion is not likely.

This does not mean, as suggested by some, that all water bodies would be reclassified as Recreation Class 1a or 1b based on some potential for child’s play. Rather, the Commission intends that a stream should be classified Recreation Class 1a or 1b due to the presence or potential for child’s play only where the evidence demonstrates a likelihood of such activity on a frequently occurring basis. Therefore, child’s play may be an appropriate basis for a Recreation Class 1a or 1b classification in a developed area where there is easy access to a stream for children and it is likely that children will desire to play in the stream; it may not be an appropriate basis for such classifications in areas where it is not expected that children will be playing in a stream on a frequently occurring basis. Factors such as lack of adequate flow, excessive flows, remoteness from developed areas, physical limitations to access, steep banks, and visibly poor water quality may make it unlikely that child’s play will take place on a frequently occurring basis. The Commission anticipates that these classification decisions will require case-by-case judgments until more experience is gathered with this issue.

A recreation Class 1a or 1b classification of a segment is not intended to imply that the owner or operator of property surrounding any waterbody in a segment would allow access for primary contact recreation. The application of recreation classifications to state waters pursuant to these provisions does not create any rights of access on or across private property for the purposes of recreation in or on such waters. A recreation Class 1a classification is intended to only affect the use classification and water quality standards of a segment, and does not imply public or recreational access to waters with restricted access within a segment.

For segments changing to recreation Class 1a because no evidence or inadequate evidence was submitted on the record about actual or potential recreational uses, the last paragraph of section 31.6(2)(b) will apply to future changes to the recreation classification where a proper showing is made through a use attainability analysis that a recreation Class 2 classification is appropriate, without application of the other downgrading criteria in this section. Moreover, the Commission is relying in part on the testimony from EPA that completion of a use attainability analysis showing that a lower recreation classification is appropriate satisfies applicable downgrading criteria. Based on these factors, the Commission intends that in a future rulemaking hearing, the test for adopting a recreation Class 2 classification would be the same as if it had been considered in this hearing.

Upper Gunnison Basin

Currently, there is a potentially explosive controversy escalating in the Upper Gunnison River Basin regarding public recreational floating use of waterways over private land. This controversy has greatly elevated the concern over consequences of some of the recreation use classifications being proposed in connection with this triennial review. The controversy also has greatly magnified the difficulty of conducting a water quality review process which is based on accurate, complete and neutral determinations of recreation uses of waterways.

The Commission recognizes the potential for being drawn into this non-water quality related issue through the process of the triennial review of recreational use classifications. The Commission intends that neither it nor the Division shall be drawn into the controversy.

The Commission has accomplished the majority of the current review in the Upper Gunnison Basin but has taken no action on the recreational use classification or standards for the following segments:

Upper Gunnison segments 5, 6a, 15, 16, 17, 18, 19, 21, 23, 24, and 26 (Under the National Park Service's proposal segments 27, and 28 have been combined into segment 26)

For these segments, the pre-existing recreation classifications and standards will continue. The Commission believes that these classifications and standards are protective of the current uses.

The Commission reiterates that a recreational use attainability analysis is required to support adoption of a Recreation 2 classification. Continuation of the current classification of Recreation 2, with a 200/100ml fecal coliform standard until the next triennial review does not represent a decision that Recreation 2 or 200 fecal coliform are the ultimate classification or standards for these stream segments, or eliminate the need to conduct recreational use attainability analyses for any Class 2 stream segments in the future. In addition, the Commission agrees that it would be appropriate for the Basic Standards Implementation work group to address these and similar issues before the next Basic Standards rulemaking.

Other Gunnison River Segments

Based on the information received that showed Recreation Class 1a uses are in place or are presumed to be present in at least a portion of the segment, the Commission changed the following segments from Class 2 to Class 1a with a 200/100 ml fecal coliform and 126/100 ml E. coli standard:

Upper Gunnison, Segments: 11, 12, 13a, 20, 22, 31
Uncompahgre, Segments: 4a, 4c, 5, 15b
Lower Gunnison, Segments: 3, 4b, 8, 11
San Miguel, Segments: 2, 3a, 6a, 6b, 7a, 7b, 12
Lower Dolores, Segments: 3, 4, 5

The following segments with existing Recreation Class 1 classifications were changed to Class 1a:

Upper Gunnison, Segments: 1, 2, 3, 4, 6b, 7, 8, 9, 10, 14, 25, 29, 30, 32
North Fork, Segments: 1, 2, 4, 7
Uncompahgre, Segments: 1, 3, 14

Lower Gunnison, Segments: 1, 2, 5, 6, 10, 13
San Miguel, Segments: 1, 3b, 4, 5, 8, 9, 10, 11
Lower Dolores, Segments: 1, 2

Based on the information received, where a reasonable level of inquiry failed to identify any existing class 1 uses of the waters in these segments, the Commission changed the following segments to Class 1b with a 325/100 ml fecal coliform and 205/100 ml E. coli standard:

Upper Gunnison, Segment: 13b
North Fork, Segments: 5, 6
Uncompahgre, Segments: 9
Lower Gunnison, Segments: 7, 12

For the following segments, the Commission adopted seasonal recreation classifications, based on evidence differences in actual or potential uses at different times of the year:

North Fork, Segment 3:	Class 1a, April 1 through September 30 Class 2, October 1 through March 31
Uncompahgre, Segments 10, 11:	Class 1b, May 1 through October 31 Class 2, November 1 through April 30
Lower Gunnison, Segment 9:	Class 1a, April 1 through October 31 Class 2, November 1 through March 31

The following segments retained their Recreation Class 2 classification with 2,000/100ml fecal coliform and 630/100 ml E. coli standards after sufficient evidence was received that a Recreation Class 1a use was unattainable.

Uncompahgre River, Segments: 2, 4b, 6a, 6b, 7, 8, 12, 13, 15a
Lower Gunnison, Segment: 4a

The classifications for Uncompahgre segments 2, 7 and 8 are based upon low flows, cold temperatures, limited access and streambed characteristics that prevent primary contact recreation. The classifications for Uncompahgre segments 12, 13 and 15a and Lower Gunnison segment 4a are based upon low flows, limited access and streambed characteristics that prevent primary contact recreation. The classification for Uncompahgre 4b is based upon low flows and the presence of numerous major irrigation diversion structures which are hazardous and preclude primary contact recreation. The classifications for Uncompahgre segments 6a and 6b are based upon the gradient and size of the streambed, cold temperatures, and the fact that the allowable pH in this segment precludes primary contact recreation.

F. Aquatic Life Segments without Full Standards

The Commission reviewed information regarding Aquatic Life Class 2 segments where the full set of inorganic aquatic life protection standards have not been applied. Generally, these are dry segments with only rudimentary aquatic life. The Commission's policy has been that rather than adopt the full set of inorganic standards for these segments, standards for dissolved oxygen, pH and fecal coliform provide sufficient protection.

Segments where investigation showed that aquatic life was present were upgraded with the addition of the full suite of inorganic standards. These segments are:

Upper Gunnison, Segments: 13, 15, 27
North Fork, Segment: 6
Uncompahgre, Segments: 6a, 10, 12
Lower Gunnison, Segment: 4
San Miguel, Segment: 12

G. Ambient Quality-Based Standards

There are several segments in the Gunnison Basin that contain standards based on existing ambient quality. Ambient standards are adopted where natural or irreversible man-induced conditions result in water quality levels higher (i.e. worse) than table value standards. EPA had requested that the Commission review the information that is the basis for these standards as well as any new information that would indicate whether they are still appropriate, need to be modified, or should be dropped. The Division reviewed the reason for the ambient standards and provided testimony that justified ambient standards being retained without adjustment on the following segments:

Upper Gunnison, Segments: 10(Pb), 20
San Miguel, Segment: 10

The Division reviewed the information about ambient water quality levels and provided testimony that justified revising or adopting the ambient standards on the following segments:

Upper Gunnison, Segments: 11, 12, 15
Uncompahgre, Segments: 3, 4, 7, 11, 12
Lower Gunnison, Segment: 2
San Miguel, Segment: 8

Ambient standards were removed from the following segments due to new data and/or changes to the basic standards which indicated ambient standards were no longer appropriate:

Upper Gunnison, Segments: 10(Zn), 12, 17, 18, 21, 30
North Fork Gunnison, Segment: 4
Uncompahgre, Segment: 2
Lower Gunnison, Segment: 2
San Miguel, Segment: 6b

H. Temporary Modifications

There were several segments which had temporary modifications that were reviewed, and decisions were made as to delete or to extend them, either as is or with modification of the numeric limits.

Upper Gunnison, Segment 8: Slate Creek: This segment had temporary modifications for iron and manganese set at existing ambient quality. The revisions to the Water Supply standards resolved this issue and therefore the temporary modification is no longer needed. The temporary modification was deleted.

North Fork, Segment 5: Tribes to North Fork: This segment has a temporary modification for selenium. The Selenium Task Force is studying this issue. The expiration date of the temporary modification was extended from 8/30/02 to 12/31/06 to coincide with the next triennial review.

Uncompahgre, Segment 4a, 4b, 4c: Uncompahgre River, Montrose to Gunnison River: This segment has a temporary modification for selenium. The Selenium Task Force is studying this issue. The expiration date of the temporary modification was extended from 8/30/02 to 12/31/06 to coincide with the next triennial review. This segment also had a temporary modification for fecal coliform which was deleted.

Uncompahgre, Segment 14: Sweitzer Lake: This segment has a temporary modification for selenium. The Selenium Task Force is studying this issue. The selenium temporary modification value was changed to reflect current conditions and the expiration date was extended from 8/30/02 to 12/31/06 to coincide with the next triennial review.

Lower Gunnison, Segment 2: Gunnison River, Uncompahgre to Colorado Rivers: This segment has a temporary modification for selenium. The Selenium Task Force is studying this issue. The selenium temporary modification value was changed to reflect current conditions and the expiration date was extended from 8/30/02 to 12/31/06 to coincide with the next triennial review.

Lower Gunnison, Segment 9: Fruitgrowers Reservoir: This segment has temporary modifications for fecal coliform and unionized ammonia. The Division and other agencies are studying the reservoir. Data indicates that the underlying standards are attained. The temporary modifications were deleted. A temporary modification for dissolved oxygen was adopted with an expiration date of 12/31/06.

San Miguel, Segment 3a: San Miguel River, Upper portion to Marshall Creek: This segment has a temporary modification for zinc. Remedial work is currently conducted in the upper part of the basin. The expiration date of the temporary modification was extended from 6/30/02 to 12/31/06 to coincide with the next triennial review.

San Miguel, Segment 3b: San Miguel River, Marshall Creek to South Fork: This segment has temporary modifications for zinc, cadmium and manganese. Data indicates that the underlying standards are attained for cadmium and manganese. The temporary modifications for cadmium and manganese were deleted. The zinc temporary modification value was changed to reflect current conditions and the expiration date was extended from 6/30/02 to 12/31/06 to coincide with the next triennial review.

San Miguel, Segment 4, San Miguel River, South Fork to Naturita Creek: This segment has a temporary modification of the temperature standard from the Power Plant Bridge to Naturita Creek, of 28° C for July, August and September, which is set to expire 12/31/2006. The temporary modification is provided to allow time for Tri-State Generation and Transmission Association to participate in a work group to address the statewide implementation of the narrative and numeric temperature standards.

There were several segments where temporary modifications that reflect current ambient conditions were adopted. Temporary modifications were set to expire on 12/31/06 to coincide with the next triennial review. The segments and the constituents are:

Upper Gunnison, Segment 10: cadmium, copper, and zinc
Upper Gunnison, Segment 11: cadmium and zinc
Upper Gunnison, Segment 12: zinc
North Fork, Segment 6: selenium
Uncompahgre, Segment 12: selenium
Lower Gunnison, Segment 4: selenium
Lower Gunnison, Segment 7: selenium and iron
San Miguel, Segments 6a and 6b: zinc
San Miguel Segment 7b: lead

I. Organic Chemical Standards

The organic chemical standards were updated to include changes adopted by the Commission in the 2000 revisions to the Basic Standards (see 31.11 in Regulation No. 31). “Water + Fish” organic chemical standards are presumptively applied to all Aquatic Life Class 1 streams which also have a Water Supply classification, and are applied to Aquatic Life Class 2 streams which also have a Water Supply classification, on a case-by-case basis. The “Fish Ingestion” organic chemical standards are presumptively applied to all Aquatic Life Class 1 streams which do not have a Water Supply classification, and are applied to aquatic life class 2 streams which do not have a Water Supply classification, on a case-by-case basis. Existing site-specific applications of additional organics (as noted in the Qualifier column of Table 35.7) were modified to conform to this change.

Information was reviewed regarding Aquatic Life Class 2 segments that have fish that are presently being taken for human consumption or have fisheries that would indicate the potential for human consumption. That information showed that four additional segments had the potential for consumption of fish. These waterbodies were designated to receive the full protection of numeric Water + Fish or Fish Ingestion organic standards:

Fish Ingestion: Upper Gunnison Segment 13
Water + Fish: Upper Gunnison Segment 17, North Fork Segment 6, and Uncompahgre Segment 10

J. Water Supply Classification

These segments had the Water Supply classification added to them. The associated water supply standards will now apply to segments:

Upper Gunnison, Segments: 13a, 13b
Uncompahgre, Segment: 10
Lower Gunnison, Segment: 4
San Miguel, Segment: 12

The Commission rejected a proposal by the High Country Citizens Alliance that a water supply classification be added to Upper Gunnison segment 12, based on the presence of a private water well near this segment of the stream. The Commission does not believe that adequate evidence was provided that the quality of water in segment 12 influences the quality of water in this well.

K. Modification of Water Supply Standards

Water supply standards were modified to conform to the changes made by the Commission in the 2000 revisions to the Basic Standards (see Regulation No. 31 at section 31.11(6)). The Commission modified the water supply standards for iron, manganese, and sulfate that are based on secondary drinking water standards (based on aesthetics as opposed to human-health risks). The numeric values in the tables were changed to Fe(ch) = WS (dis), Mn(ch) = WS (dis), and SO₄ = WS. These abbreviations mean that for all surface waters with an actual water supply use, the less restrictive of the following two options shall apply as numerical standards, as discussed in the Basic Standards and Methodologies at section 31.11(6): either (i) existing quality as of January 1 2000; or (ii) Iron = 300 µg/L (dissolved); Manganese = 50 µg/L (dissolved); Sulfate = 250 mg/L (dissolved). For all surface waters with a “Water Supply” classification that are not in actual use as a water supply, no water supply standards are applied for iron, manganese or sulfate, unless the Commission determined as the result of a site-specific rulemaking hearing that such standards are appropriate.

L. Agriculture Classifications

There is one segment in the Gunnison River Basin that was not correctly classified for Agricultural use. The Agricultural use classification was adopted for San Miguel, Segment 3b.

M. Agriculture Standards

Numeric Standards to protect Agricultural Uses were adopted for the following segments:

Upper Gunnison, Segments: 6a, 31
Lower Gunnison, Segment 12
Lower Dolores, Segment 3

N. Other Site-Specific Revisions

The Commission corrected several typographical and spelling errors, and clarified segment descriptions.

The following aquatic life classifications were upgraded from class 2 to class 1 based on information presented that showed diverse aquatic communities in these segments.

Lower Gunnison, Segment 8

Lower Gunnison, Segment 6 was changed from aquatic life class 2 warm to class 1 cold, based on information received about the aquatic community that includes trout species.

Aquatic life cold 2 use classifications were added to Upper Gunnison Segment 13 and Uncompahgre Segments 6a and 6b, based on information that an aquatic community is in place in these segments.

PARTIES TO THE RULEMAKING HEARING

1. Animas River Stakeholders Group
2. Colorado Wild, San Juan Citizen's Alliance, Sierra Club-Rocky Mountain Chapter, Colorado Environmental Coalition and The Wilderness Society
3. U.S. Department of the Interior, Bureau of Land Management
4. Sunnyside Gold Corporation
5. The Southwestern Water Conservation District
6. Silver Wing Company, Inc.
7. U.S. Department of Agriculture Forest Service
8. Shenandoah Mining Company Incorporated
9. Town of Silverton
10. Pagosa Area Water and Sanitation District
11. Peter Butler
12. U.S. Department of the Interior National Park Service
13. Climax Molybdenum Company
14. Tri-State Generation and Transmission Association, Inc.
15. Town of Olathe
16. The Board of County Commissioners of the County of Gunnison
17. Gunnison County Stockgrowers Association, Inc.
18. High Country Citizens' Alliance and Western Slope Environmental Resource Council
19. The City of Grand Junction
20. Homestake Mining Company
21. The Board of County Commissioners of the County of San Miguel
22. Mt. Crested Butte Water and Sanitation District
23. Colorado River Water Conservation District
24. Town of Cedaredge
25. The Board of County Commissioners of the County of Mesa
26. The Uncompahgre Valley Water Users Association
27. Umetco Minerals Corporation
28. The Colowyo Coal Company, L.P.
29. The Uncompahgre Valley Association
30. Town of Crested Butte
31. The City of Delta
32. Trapper Mining, Inc.
33. The Colowyo Coal Company, L.P.
34. The City of Grand Junction
35. Colorado River Water Conservation District
36. Yellow Jacket Water Conservation District
37. The Town of Meeker
38. The City of Fruita
39. Exxon Mobil Corporation
40. Shell Frontier Oil & Gas Inc.
41. The Board of County Commissioners of the County of Mesa
42. American Soda, LLP
43. The Rio Blanco Water Conservancy District
44. Colorado Division of Wildlife
45. The Northern Colorado Water Conservancy District and its Municipal Subdistrict
46. Upper Gunnison River Water Conservancy District
47. U.S. EPA Region
48. Ralph E. Clark III

49. U.S. Department of the Interior, Fish and Wildlife Service